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As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE. To obtain copies write in the key numbers on the free-postage card below.

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Hose Carts **438**
Wirt & Knox Mfg. Co. Bulletin describes fire hoses and carts, listing "best uses" and advantages of models. Literature describes complete types of equipment to be used on carts as well as capacities of hoses and overall dimensions.

Anti-Freeze Extinguisher **439**
Miller-Peerless Mfg. Co. Literature describes an all-year-round pump extinguisher which is unaffected by temperature change. Also included in brochure are other extinguisher models and safety cans for flammable liquids.

INDUSTRIAL HYGIENE

Salt & Vitamin Tablets **440**
U. S. Safety Service Co. now produces a "pep up" salt tablet with essential vitamins to help employees remain alert and to eliminate heat fatigue. Bulletin details types of pills, dispensers, bulk boxes and pocket packs. Quantities and prices are listed.

Electronic Air Cleaner **441**
American Air Filter Co. Bulletin on electronic air filter includes details of operation, explanation of the agglomerator and storage sections, equipment drawings, capacity and dimension tables, specifications and a list of typical installations. Unit combines electronic precipitation with air handling units without attendant maintenance problems. According to literature, there is no need for water, no washing, no drains, no oiling of plates and no freezing problems.

Radiation Monitoring **442**
R. S. Landauer, Jr. & Co. Brochure describes radiation monitoring services and covers badge services and the evaluation and control methods. Included is a description of the company's method of reporting exposure over certain periods of time.

Air Purification Equipment **443**
Connor Engineering Corp. Dorex booklet contains complete descriptive literature, including dimensions and illustrations of the air purification systems with activated carbon. Additional Dorex products, as well as services and representatives, are listed in the back of the bulletin.

Soap Dispensers **444**
Bobrick Dispensers, Inc. Catalog sheet describes soap dispensers for schools and industry. Literature includes large illustrations, descriptive and dimensional data on dispensers for both liquid and lather type soaps.

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Ventilating Heaters **445**
Morrison-Peisue Co. Bulletin describes all types of underground ventilating heaters for telephone, telegraph, water, gas and electric utilities. Text includes general information as well as specifications and detailed illustrations. Also described is accessory equipment used in connection with heaters.

PERSONAL PROTECTION

Vinyl Safety Goggles **446**
Bausch & Lomb Optical Co. Bulletin illustrates and describes new light weight and highly protective goggles, Super BALguard. Among their special features are a two-way ventilation process, designed for comfort and ease in use, and an extended visual area. Features are clearly pictured and explained in the bulletin.

Custom Fit Frames **447**
Watchemoket Optical Company, Inc. Brochure gives complete information on frames designed to fit S-7 lenses. Detailed illustrations explain how adjustment is made, plus special safety features. Literature includes facts on frames complete with lenses and with or without side shields.

Welding Catalog **448**
Sellstrom Manufacturing Co., offers a four page condensed catalog of face and eye protection products, featuring the 38 most important "Sellstrom Safeguards." This colorful, illustrated catalog includes goggles, welding helmets, and industrial respirators.

Eyeshade Spectacles **449**
United States Safety Service Co. Illustrated bulletin provides information on plastic spectacles with an attached eyeshade to shield the eyes from overhead glare, designed to increase safety, comfort, and efficiency. Includes description of various models and parts, and a complete price list.

Plastic Goggles **450**
Pulmosan Safety Equipment Corp. announces its new line of plastic goggles in a fully illustrated, easy to read bulletin. Descriptions include goggles with or without side shields, light duty spectacles, and those complete with eyeshields. Literature also includes information on disposable anti-fogging and cleaning station.

MAINTENANCE

Concrete Floor Repair **451**
The Master Builders Co., has published a bulletin announcing its new pre-mixed mortar for concrete floor repairs. Complete explanations and photos provide an outline for the seven step procedure in using this product.

(Continued on the next page)

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American Gas & Chemicals, Inc., has developed a non-explosive, non-flammable, non-injurious leak detector, easily applied with its squeeze bottle dispenser. Illustrated bulletin points out its many uses, emphasizing its safety and efficiency features.

Floor Maintenance and Repair .. 455

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MISCELLANEOUS

Switch Application Instructions .. 456

Minneapolis-Honeywell Regulator Co., has published a 16 page booklet supplying detailed instructions and illustrations for proper application of industrial limit switches. Booklet is easy to read, simple, and extremely comprehensive.

Ropes for Industrial Use 457

Plymouth Cordage Co. Folder points out important differences in apparently identical ropes, and how to recognize these. Contains features found in Plymouth ropes, such as high grade fiber, endurance tests, and improvement through research. Bulletin also notes various special duty type ropes.

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- **Has an accident or fire interrupted production?**
- **Want to know how to prevent it?**
- **Do you need background information on equipment for industrial safety, hygiene, or maintenance?**

As a service to its readers, "Safety Maintenance" will arrange to supply manufacturers literature on the following subjects. Just insert the key number on the Readers Inquiry Card on the preceding page and be sure to fill in your name and address. If you need information on a specific type of product, simply write it in on the Inquiry Card.

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103	Lens Cleaning & Anti-Fogging Equipment
104	Sweat Band
105	Hard Hats
106	Respirators & Masks
107	Protective Clothing
108	Women's Protective Clothing
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113	Oil-Resistant Soles
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Key Number	Subject
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Safety Maintenance

formerly "SAFETY ENGINEERING"

Volume 118, Number 2 **August, 1959**

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● SAFETY BRIEFING—TOP TO BOTTOM

As this is written, the threatened steel strike is not yet an actuality. Therefore with industrial employment at an all-time high, it is safe to assume that the ranks of labor constantly are being swelled by younger newcomers. This being so, it is well within the bounds of possibility that those large numbers of newly employed need exposure to the tenets of safety.

Fortunately, the time has passed in American industry when a man was hired for work in a foundry, a machine shop or a chemical plant and then—safety-wise—was expected to more or less shift for himself. That is, if his employers want to stay away from accident statistics, loss of production and higher insurance costs. Today, that new employee is given some sort of accident prevention orientation—or at least he should be—and the more complete, the better for management, labor unions, insurance companies and certainly the laborer himself. Thank heaven, here is one area where there seems to be perfect agreement!

Thus, it behooves top management to "brief" itself concerning the latest findings in the safety world; hear the last word in hazard removal and accident prevention techniques, as well as equipment, devices, products and services designed to stem the tide of preventable casualty in industry.

From observation over a long period of time, experience has shown that no more concerned and last-word briefing can be obtained than at the National Safety Congress and Exposition, sponsored each year by the National Safety Council.

Within a period of just five action-packed days and under the roofs of closely located hotels in Chicago, there will come together this October leaders of every segment of accident prevention, fire control, hygiene and industrial health conservation. Their invaluable experience freely shared is at the disposal of the thousands of delegates who have demonstrated that cooperation, rather than competition, is the very essence of safety accomplishment. It is at this convention that the safety director or operating official of a New England textile mill can learn that procedures in a California aeronautical operation lend themselves to adaptation. The safety man plagued by employee indifference to their own safety in an Alabama steel plant can share his burden with his counterpart who has learned how to cope with human frailty in an Oregon lumber mill. Out of this welter of their combined experience, the nation gains.

Time was when a safety convention may have been viewed with jaundiced managerial eye as just another time-consuming junket. With traveling costs, direct and otherwise, at an astronomical peak, it speaks well for the country's industrial management that attendance at the National Safety Congress now is considered a "must." An hour's walk through the acres of exhibits and a glance at the scores of subject sessions will convince the most penny-pinching skeptic that there is one convention that pays off. Incidentally, a spectacular trophy should be awarded to any hardy soul who imagines that he can absorb the Congress within that hour.

● THE TOLL OF FALLS

Newspapers all over the country carry banner headlines whenever a plane crashes, proving that readers always will respond to the dramatic. Accidental falls, a major cause of mortality in this country merit no such headline treatment.

According to statisticians of the Metropolitan Life Insurance Company, the loss of life resulting from falls is about fifteen times the toll from aircraft accidents.

It is significant to note that industry long ago recognized that while everyone may not require protective clothing or respirators in all industrial operations, all labor stands or walks. Thus management took care to remove or at least minimize walkways hazards through the use of safety treads, safe flooring, fall resistant ladders and scaffolds. The result of this accident prevention effort is that only about two percent of fatal falls occur in factories, quarries, mines and other industrial places, according to the Metropolitan, while more than half such fatalities occur in and about the home.

Falls are not nearly so dramatic as aircraft crashes but they take more than 20,000 lives every year. Perhaps our safety leaders would be wise to take their fall-prevention doctrines to the homes of their respective communities.

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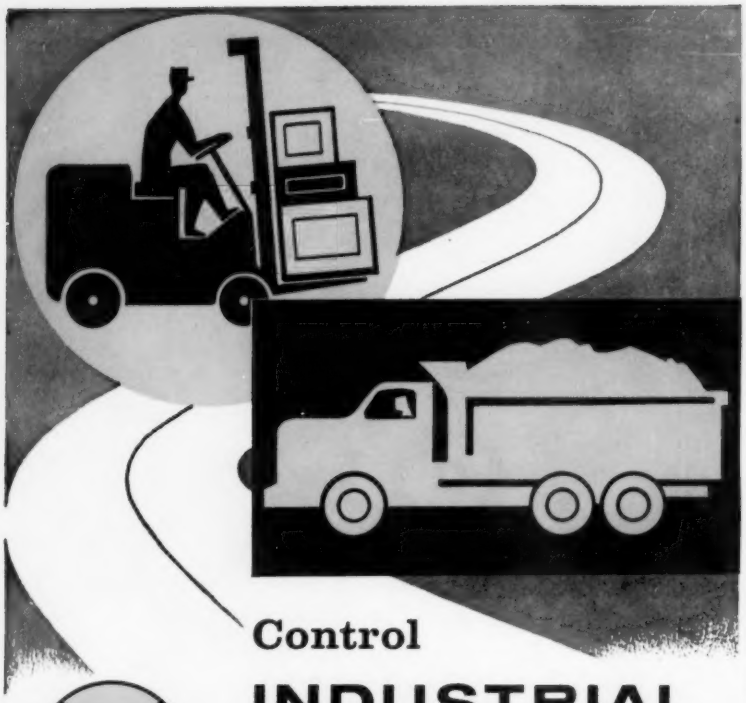

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the future shows

Minneapolis, Minn. *August 13–15*

Twelfth Annual Convention of the International Rescue and First Aid Association (Pick-Nicollet Hotel). Max L. Spray, Executive Director, IRFAA, 101 North Alfred St., Alexandria, Va.

Chicago, Ill. *September 21–25*

Fourteenth Annual Instrument-Automation Conference & Exhibit, (International Amphitheatre). Fred J. Tabery, 3443 S. Hill St., Los Angeles 7, Calif.

New York, N.Y. *September 22–24*

Fourth Industrial & Building Sanitation Maintenance Conference and Show (N. Y. Trade Show Building). Executive Secretary, Institute of Sanitation Management, 855 Ave. of the Americas, New York 1, N. Y.

Raleigh, N.C. *September 22–24*

Southeastern Plant Engineering and Maintenance Show (N. C. State Fair Arena). John Harden Associates, Jefferson Bldg., Greensboro, N. C.

Atlantic City, N. J. *October 19–23*

Eighty-seventh Annual Meeting of the American Public Health Association (Convention Hall). American Public Health Association, 1790 Broadway, New York, N. Y.

Chicago, Ill. *October 19–23*

Forty-seventh Annual National Safety Congress and Exposition (Conrad-Hilton Hotel). R. L. Forney, Secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Fort Wayne, Ind. *March 15–16*

1960 Northeastern Indiana Safety Conference and Exhibit. Ivan A. Martin, Safety Council Manager, Chamber of Commerce Building, Fort Wayne, Ind.

Philadelphia, Pa. *January 25–28*

Eleventh Plant Maintenance & Engineering Show and Conference (Convention Hall). Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

LABOR'S VIEW OF EYE SAFETY

by **GEORGE T. BROWN**
Assistant to the President
American Federation of Labor and Congress of Industrial Organizations
Washington, D. C.

The basic ingredient of labor's prescription for industrial vision conservation is voluntary cooperation between management and labor. There are other ingredients, of course; but without the fundamental element of joint cooperation, the eye-safety program may fail miserably or yield frustrating results. In eye safety—as in the broader areas of safety and occupational health—cooperation between labor and management is the key to complete success.

Unfortunately, this generalization concerning cooperation belongs in the same category as the companion truism that "everybody" is "for" safety. It is not enough to think logically about vision conservation; intelligent action is also a requisite. But intelligent action includes not only logic but also reason. While everyone logically places a high value on his eyesight, his actions frequently challenge the reasonableness of his belief.

In terms of an industrial vision program, what lies between logic and reason?

Does every employer make reasonable efforts to conserve the vision of his employees? Or is the "problem" of the small and medium sized firm fictitious?

Does every worker value his eyesight? Or is the "problem" of getting employees to wear goggles non-existent?

Do management and labor agree that conserving eyesight "makes sense"? Or is there a "problem" of shaping attitudes toward sight conservation?

In short, if logic alone were the necessary ingredient of a prescription for industrial vision conservation, there would be no problems.

But the steps between logic and reason are in fact stumbling blocks that effectively obstruct the path to sight conservation in industry.

What Are These Stumbling Blocks?

The principal stumbling block is the improper attitude of management and labor toward sight conservation. Some firms are satisfied to recognize logically that every employee values his eyesight; to order identical goggles by the gross; to publicize an edict that all employees must wear goggles and to pay high insurance rates for eye injuries. Other firms do even less. They emphasize the smallness of their work force; the high cost of providing an effective sight conservation program; the pressure of other problems; and they conclude that the common sense of workers will solve the problem.

On the other hand workers, all too frequently, regard safety in general and sight conservation in particular is the exclusive responsibility of the employer; and believe that the employer's attitude indicates that he is not too concerned; that he has handed down his edicts, now let him enforce them, that the goggles are uncomfortable and no good, anyhow; that the production requirements can't be met if he has to bother about safety rules; that the foreman is more concerned with output than safety; and that after all, he has worked this long without an eye injury, so why bother?

The net result of such attitudes is well known; management blames labor and labor blames management and **eye conservation fails.**

Obviously, there are other stumbling blocks; they vary from re-location of existing equipment, re-designing the equipment, determining what kind of eye protection is necessary for each individual worker, designing guards in the form of shields and goggles which are efficient and comfortable, distinguishing between areas where goggles must be worn constantly and those where they must be worn intermittently, and a host of other "problems" which may be termed "technical" in nature.

But the primary stumbling block

—improper attitudes toward sight conservation—must be successfully eliminated or the whole program is in constant jeopardy. For a successful conservation program requires understanding, mutual confidence, mutual participation and joint responsibility. All of these ingredients are necessities for voluntary cooperation, and all of them can be found most readily in joint labor-management safety committees.

Cooperation: The Joint Labor Management Safety Committee

Are joint labor-management safety committees a new idea? Would the creation of a joint committee for industrial sight conservation be a radical departure in labor-management relations?

The record speaks for itself. In 1954–55 the Bureau of Labor Statistics of the U. S. Department of Labor made a survey of collective bargaining clauses (Bulletin 1201) in contracts and learned that one and three quarters million workers enjoyed the benefits of joint labor-management safety committees. Another quarter of a million workers participated on safety committees which were not apparently fully joint in their operation.

How do labor-management committees work out in practice? Again the record is clear. The Bureau of National Affairs, Inc., a private enterprise research firm conducted a survey in 1955 of "Company Safety Programs" and came up with these findings:

1. **Most personnel executives answer "yes" to the question: "Is it advisable to have union representatives on the safety committee?"**
2. **In companies having unions, joint union-management safety committees are found in 52 percent of the larger companies and 63 percent of the smaller ones.**
3. **Many larger companies have such joint safety committees in addition to management committees.**
4. **In smaller companies the joint union-management safety committees tend to be a substitute for the management safety committee.**
5. **In several companies which do not have joint union-management safety committees, the union maintains its own safety committee which polices safety measures and reports to the Company Safety Director.**

It is indeed unfortunate that the these data are not more current, but let me assure you that in the future there is going to be a constant growth in the number and value of joint union-management safety committees in general. At the AFL-CIO National Conference on Safety and Occupational Health, the role of joint committees will be given major attention. We shall put into practice our basic belief that in matters of safety, labor-management cooperation is the key to success.

In short, where there are already joint committees, the existing machinery can be readily adapted to an effective eye safety program. Where there are no joint committees, one could be established as the modest beginning of an overall joint safety program.

What can joint committees do to remove the fundamental stumbling block of a vision conservation program: improper attitudes?

First, the union members in a plant are a ready-made communication system available to an employer for the asking. This organization includes not merely the individual employees but also their families. The importance of the family cannot be overlooked—although all too commonly it is. Isn't partial or total loss of vision economically and emotionally as meaningful to the wife and children of a wage earner as it is to himself? Yet, too large a part of management refuses to recognize the collective bargaining agent as anything more than the representative of workers for wages, hours and working conditions. The union represents families, not individuals, for without the support of families the unions could not endure.

Second, by making the vision conservation program a joint venture, management will find the touchstone of cooperation: participation. But "participation" does not mean that workers are figuratively lined up during working hours and told that the following shall volunteer to "participate" in the eye safety program by obeying the following rules handed down from the front office. "Participation" does not mean that objections to the rules are simply the grumblings of "trouble-makers," "malcontents" and "ingrates" who don't appreciate having their eyesight safeguarded.

But participation does mean working with the union to awaken in workers' minds the realization that the management is seriously interested in conserving their vision; that management has some ideas on the problem; that management would be receptive to ideas from the union; that jointly they could develop a program and jointly they could administer it. Moreover, there would be machinery in existence not only to bring complaints out in the open but also to consider them seriously.

Concretely, the failure to wear goggles may be more than a whim of a recalcitrant worker. The off-center plano goggles may cause more trouble than the probability of an injury; the size of the goggles, their weight and their fit to the face may in fact be too uncomfortable to wear for an eight-hour working day. Perhaps using a worker who is about to be retired as the first aid man for eye injuries does cause workers to question just how seriously management takes its conservation program. Perhaps the absence of any trained first aid specialist on the second or third shift is not just another complaint of an ingrate. Genuine participation means joint consideration by management and labor in investigating the causes of friction and removing them where they do in fact exist. Above all, participation means that the program is designed and administered "with the consent of the governed" —and no better system for cooperation has yet been developed in the world.

Third, a joint union-management visual conservation program broadens responsibility and duties. When a union accepts an opportunity to share in the program, then it will also accept the duty of making the program work. There

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Ohio firm's safety and security supervisor sees cleanliness of plant as vital factor in 2-year injury-free work record.

GOOD HOUSEKEEPING: KEY TO BETTER SAFETY

by **ROBERT J. WHITE**
Supervisor, Safety and Security
Crosley Division
Avco Corporation
Evendale, Ohio

Earning recognition from the National Safety Council for operating "one of America's safest plants" was no accident for Crosley's Evendale, Ohio plant near Cincinnati.

We won this title by recording more than five million man-hours without a disabling-injury accident. And one of the chief factors in achieving this injury-free work record is management's insistence upon absolute cleanliness in the plant.

Cleanliness has contributed to safety at the Evendale plant in several ways. Daily cleaning procedures keep floors and work benches free of clutter, dirt, and dust. Aisleways are cleared of such stumbling blocks as carts and stools to assure efficient traffic movement during working hours.

In the electronic assembly and production departments, the possibility of dermatitis and other skin disorders is reduced by maintaining high standards of personal cleanliness. All assembly line personnel are provided with disposable paper wipers and, for their personal benefit, are encouraged to wipe their hands and faces often. A clean paper wiper is available for every application.

Personal cleanliness is stressed in assembly work. Plant's employees are encouraged to wipe their hands and faces frequently with disposable tissues.

Chief Uses

These same precautionary measures are carried over into the machine tool maintenance department. The soft and absorbent, yet tough, paper wipers are employed for two purposes: for soaking up oils and coolants from machinery, and for maintaining personal cleanliness. Each time an employee wipes his face or hands, he uses a fresh, clean wiper from the box. This eliminates the danger of chips

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PROTECTIVE CLOTHING SERIES
other articles July & Sept.

A Glove Program With A SAFETY Grip

**Hand and finger injuries are costly.
But an indiscriminate issuing of gloves is wasteful.
Here's how to set up a sensible hand protection program.**

Here a pressman, wearing the regulation safety equipment of gloves, armguards and palm pads, is shown as he feeds a burred edged blank into a forming die.

Plastics worker wearing lightweight rubber gloves which guard against skin irritants but permit finger dexterity.

Woman press operator with gloves, armguards. Finger dexterity, smaller stampings eliminate palm pad need.

by **THOMAS H. BULLARD**
Safety Manager
The Budd Company
Philadelphia, Pa.

Dr. Walter G. Vernon, of Lukens Steel Company, recently stated that "a hand with its fingers is probably the most constantly used part of the body. It is certainly a complex anatomical structure and so frequently exposed to potential injury in its use. Your hand contains pulleys, levers, hinges, gears, slings, pipes, tunnels and valves all controlled by an electrical conduction system. They are all contained within a single structure, the skin, which in itself is thick and thin, relatively insensitive in some areas and highly sensitive in other areas, ridged and fixed in certain locations and smooth and loose in other areas."

But how many of us stop to evaluate the need for adequate protection of the hands in our own type of business? If we would only be realistic about it, we would see that any moneys spent for protecting the fingers or hands will prove much less than the expense of treatng a serious injury to the fingers or hands.

In our own company's four main plants and seven subsidiary plants we have approxmately 16 thousand employees. Our products include automotive component parts, automobile and truck wheels and bodies, brake drums, streamline rail cars, missile parts, jet engine assemblies, testing and measuring equipment, nuclear products, all

(Continued on page 12)

TYPE OF HAND PROTECTION: From the top and from the left—asbestos glove, loop pile, and aluminized glove: all for handling hot materials. 18-ounce cotton glove and loop pile glove for general shop wear. 2nd Row—left to right, plastic dipped glove for excessively oily work. Fine rubber glove for protection against acids, etc., where finger dexterity is required. Neoprene gauntlet for use with caustics, acids, etc. Neoprene and cork dipped glove for slippery and oily material. Chrome leather welder's glove for arc welding. Bottom Row—left to right, neoprene sandwich palm pad for protection against sharp edges. Asbestos palm pad for hot, sharp edges. Brass studded leather palm pad for heavy material handling. Open backed leather palm pad for annealing operations.

Pressman wears gloves, armguards, palm pads for handling sharp-edged stampings. Double button control, eye guard also are standard.

This photo presents a close-up of the hand and arm protection for the operator of the press which is shown in picture at left.

types of fibre products and numerous miscellaneous items.

Due to the type of business in which we are engaged, it is of extreme importance that safety be a prime thought in every operation. We have in each plant an "8-Point Plan For A Safe Budd Plant" issued by our Company president, Mr. E. G. Budd, Jr. This plan sets the safety policy for every plant and there can be no deviation from it. It requires every supervisor in the plant to talk to at least two employees each day on a subject of safety, also that each plant shall have an Executive Safety Committee consisting of assistants to the plant manager and all division managers who meet monthly to review the previous month's safety record and to make necessary safety recommendations. There is also provision for the safety training of all employees, and supervision as well, by an organized plan.

Variety of Operations

Since we handle thousands of tons of metal stampings each year and a great portion of this metal must pass through the hands of the people in our shops, we must take precautions to protect the hands and fingers of our employees. We have such operations as metal-pouring, square shearing, punch pressing, electric-arc welding, spot and electronic welding, metal forming, machining of metal castings and many other familiar types of work.

We provide gloves, handpads and armguards where they are required for protection on the job, at no cost to the employee. This has been our policy for the past seven or eight years and believe me, there are more persons in our organization using gloves now when they are provided without charge than ever wore them when the employees had to purchase them. In fact, we must constantly be on guard to see that they are not used on jobs where they may create a hazard, i.e. on rip saws, roller straighteners, etc.

People are creatures of habit and we learn these habits usually from watching someone else. Even if the habit is a wrong one, it is hard to break. This is all the more reason why we should train others to follow safe practices and not to commit unsafe practices lest they become a habit.

The High Cost of Hand Injuries

Let's take a look at a few statistics to see how the hand and finger injuries stack up in industry. The U. S. Department of Labor report for the year of 1957 states that there were nearly two million industrial disabling injuries and that 750,000 of this total were disabling hand injuries.

Looking further into this report we find that in industry in general 30% of all injuries are hand injuries; in the metal press and stamping business 91% are hand injuries; and that 60% of all hand injuries are not due to an agent of machinery.

According to the National Safety Council, the average cost of a thumb or finger injury is $314 and the average cost of a hand injury is $377 based on national figures for disabling injuries.

In our own company, a survey of all injuries indicated that 48% of all injuries recorded were hand or finger cases during a given three-year period and representing over 65,000 total injuries.

A Hand Protection Program

A sound hand proctection program does not have to cost so much that it becomes impractical, but you must attack your problems with a clear mind and with a thought that you can reduce your accident costs.

Basically, gloves or handpads or armguards are all items of protection and the cost of these items must be weighed against the cost of an injury without their use. For example, in the State of Pennsylvania, the Workmen's Compensation payments for the loss or loss-of-use of a little finger is $563; $1313 for an index finger and $2250 for a thumb. Stop and realize how many pairs of gloves or handpads you might purchase for one finger or thumb loss.

In Pennsylvania the law states that gloves shall be provided for all work that is caustic, for molten metals, sharp or rough edges, corrosive or hot material. An extensive protection program can therefore run into money, but there are ways to save money too.

As mentioned, gloves must be provided for sharp or rough edged materials. We once found in our small parts division, that we had to furnish gloves because the metal stampings were coming from the presses and square shears with heavy burrs. This meant providing gloves for about 18 employees who did follow-up work on these stampings on the pressbrakes and inspection jobs. By placing two of these employees on a belt-sanding operation, we found that those other sixteen employees did not need gloves because the belt-sander had removed the burrs from the metal stampings. We also did some work on the shear blades and press dies to improve or sharpen their cutting edges so that burrs were less pronounced. We were still faced with the slight problem of explaining to some of the employees that gloves were not given just to keep the hands clean!

Key Man in Program

Your supervisor is the key man in your glove program just as he is the key man in any safety or production program. If you have not sold him on the savings to the company of good efficient operation of his department, then there is not much use in trying to keep him economy minded in the hand protection benefits.

The supervisor must realize that if he does not control the costs of the gloves, handpads or armguards used in his department then he is not going to mind the high costs of poor workmanship of his employees. We indicate on the department cost records distributed each month, the cost figures for gloves, etc., as well as the cost of injuries and compensation payments. These figures will certainly impress him since they are something he cannot regain and the cost of accidents are never budgeted for in any organization.

In our company the supervisor is responsible for issuance of requisitions for gloves and other safety

On many operations deburring before forming can be done by tumbling in rotating drum shown here.

This close-up shows hand and armguards with palm pads as designed for the handling of small blanks.

When gloves are worn beyond point of practical use, foreman will give worker a glove ticket for new pair.

equipment to the employee, but it is his prerogative as the supervisor to see that the gloves or handpads or armguards or whatever the device may be, are worn to a certain degree before being replaced. There are some employees who like to obtain a new fresh pair of gloves every day. This is all well and good, but it can raise the costs too; and if the employee was paying for them himself, he would get at least one week's wear out of each pair of gloves.

We have a laundering service that brings economy to our safety program and I can personally recommend it very highly. Each week our Stores division gathers from each tool booth every soiled or worn pair of handpads, armguards, gloves, aprons, spats and leather sleeves or leggings and we send them to the laundering service. The following week they are returned to us all cleaned and just about as good as new. Patching is applied when needed; and the savings certainly justify the service.

There are a number of items to keep in mind when setting up or carrying on a glove program so that the costs will be moderate enough to justify the expense for the program.

First of all, if you are just going into a glove program, make an analysis or survey of all operations in your plant as to where the gloves or other protective equipment may be required. Does the operation warrant the need for gloves or can conditions be changed so that the work can be handled without gloves? Can the parts be delivered to the next operation by conveyor, perhaps, to avoid handling by hand? Can the rough edges be removed in a primary operation so that everyone handling them at subsequent operations would not require the use of gloves? These are all pertinent questions and money-saving ideas if they can be applied.

If you have a specific problem and cannot reach a satisfactory answer to what protective measure should be used, then don't hesitate

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DO WE ALL MEASURE ACCIDENT

by **ROBERT M. ANDERSON**
Anderson Associates
Safety Consultant
Hamden, Connecticut

Safety engineers will agree that accident frequency rate, when used wisely, is a good measurement of the success of a safety program, regardless of the size or type of industry. When the frequency rate is low or decreases, it is not an indication that any of us can rest on our laurels. We all know that safety requires constant attention and that we cannot relax our efforts, if we are to keep employee accidents under control.

The following facts on the method used by the railroad industry in compiling their employee accident frequency is by no means a condemnation of the safety efforts of that industry. Rather it is an attempt to emphasize: 1. the need for changing the present method, and 2. the fact that **all** employee disabling injury or lost time accidents should be included, if frequency is to be used as a method of measurement.

It is only fair to mention that the railroad industry has made tremendous strides in accident prevention; and we must also remember the many phases of safety confronting the railroad industry, such as passenger safety, train operation and the many and varied types of products it has been and is called upon to transport safely. For example, in 1939 the railroads of the United States and Canada moved some 500 million pounds of high explosives without an accident or injury.[1]

1 H. W. Heinrich, "Industrial Accident Prevention," p. 408.

Under the Accidents Reports Act, the railroads are required in Section I to report all accidents and the following is quoted from Appendix A, Rules Governing Monthly Reports Of Railroad Accidents: "These rules are issued by authority of the Accident Reports Act approved May 6, 1910, Section I of which requires 'that it shall be the duty of the general manager, superintendent, or other proper officer of every common carrier engaged in interstate or foreign commerce by railroad to make to the Interstate Commerce Commission, at its office in Washington, District of Columbia, a monthly report under oath, of all collisions, derailments, or other accidents resulting in injury to persons, equipment, or roadbed arising from the operation of such railroad under such

(Continued on page 20)

TABLE 1: Accident Frequency Rate for Seven Railroads (1955–1956)

CLASS I RAILROADS	Rates as Reported under the Accident Report Act: Total Number Employees Injured [1] 1955	1956	Frequency 1955	1956	Rates as Based on Method Used by Other Industries [4]: 1–3 Day Injuries [2] 1955	1956	Killed [3] 1955	1956	Total Disabling Injuries and Killed 1955	1956	Actual Frequency 1955	1956
A	442	477	3.83	4.22	901	760	9	6	1352	1243	11.71	11.00
B	473	461	4.91	4.72	678	695	20	22	1171	1161	12.16	11.88
C	365	419	6.00	7.04	812	760	5	8	1182	1187	19.43	19.94
D	166	159	3.01	2.92	472	475	7	5	645	639	11.69	11.72
E	1879	1669	9.98	9.14	1446	1367	20	13	3345	3049	17.77	16.69
F	437	523	11.59	14.71	340	305	2	6	779	833	20.66	23.43
G	1022	1159	5.84	6.78	1155	1270	11	15	2188	2444	12.50	14.29

[1] The reportable I.C.C. Injury, on which frequency is based. Does not include 1–3 Day inuries or deaths occurring within 24 hours from time of accident

[2] The 1–3 Day injury which is not included in the frequency (Lost Time Not Exceeding 3 days within the first 10 days following date of accident)

[3] Employees killed at time of accident or whose death occured within 24 hours thereafter

[4] But still not up to ASA standards, because of exceptions as set forth in the rules (Accident Report Act)

SOURCE: 1955—Accident Bulletin #124, I.C.C. Bureau of Transport Economics and Statistics

1956—Accident Bulletin #125, I.C.C. Bureau of Transport Economics and Statistics

1957—Not comparable because of further changes in the rules

Anderson Associates
Safety Consultants To Management
March 1959

FREQUENCY CORRECTLY?

TABLE 2: Definition of Terms

From Appendix A of the Rules Governing Monthly Reports of Railroads Accidents.

ss125.11 *Definition of "Arising from the operation of a railroad."* The terms is limited to the physical operation and maintenance of equipment, track, and roadbed of a railroad and includes only the:

(a) Operation of trains, locomotives, or cars.

(b) Transportation in railroad cars of persons, freight, mail, baggage, express, or other material including loading and unloading of such cars.

(c) Any necessary handling and care, by railroad employees, of persons and lading on cars in transit.

(d) Work performed on railroad property (except as indicated in ss125.15(a) by railroad employees who in course of their regular duty are engaged in the operation, construction, servicing, or maintenance of existing lines, as follows:

1. Construction, servicing, or maintenance of locomotives or cars or of any of the facilities used for doing this work.

2. Construction, installation, or repair of tracks or roadbed or any of the facilities used for doing this work.

3. Construction, installation, servicing, or maintenance of signal structures or equipment including highway crossing protection or of any of the facilities used for doing this work.

4. Construction, installation, servicing, or maintenance of communication structures or equipment or of any of the facilities used for doing this work.

5. Construction, installation, servicing, or maintenance of other fixed railroad structures, including signs, under, over or beside tracks.

6. Physical operation of all railroad facilities and equipment which includes those acts which were performed in and about freight houses and passenger stations (including the loading and unloading of cars), yard offices, car dumpers, or storehouses or any other facilities used for providing railroad service.

(Table Continued on next page)

From Appendix B: Changes in the Rules Effective January 1, 1957

ss125.11 *Definition of "Arising from the operation of a railroad."* The term refers only to the conduct of railroad activities as an operating entity. It includes the construction, installation, inspection, protection, operation, servicing or maintenance of all railroad facilities or equipment, including those acts of commission or omission performed in and about such facilities or equipment. The term does not refer to sales or traffic work; real estate, industrial, forestry, or agricultural development work; legal, financial, statistical, accounting, or public relations work; or similar executive, professional, or clerical work not involving the operation of a railroad as an operating entity.

TABLE 2: Definition of Terms

(from page 15)

RULES FOR MONTHLY ACCIDENT REPORTS	RULE CHANGES EFFECTIVE JAN. 1, 1957
ss125.12 *Definition of "Accidents."*	**ss125.12 *Definition of "Accidents."***
(a) An accident is an occurrence arising from a collision, derailment or other happening incurred in the physical operation of a railroad as herein defined in ss125.11 above.	**(a) An accident is a collision, derailment, or other event resulting in injury to persons, equipment, or roadbed as hereinafter defined in ss125.21 and which is incurred in the operation of a common carrier engaged in interstate or foreign commerce by railroad as hereinbefore defined in ss125.11.**
(b) The Accident Reports Act requires the reporting of collisions, derailments or other accidents resulting in injury to persons, equipment or roadbed, arising from the operation of a railroad. As used in the Act, the term "other accidents" requires that said accidents should include only such accidents as involve the physical movement and maintenance of trains, locomotives, or cars, and the maintenance and use of tracks and roadbed.	**(b) As used herein, "accident" and "injury" are not synonymous terms. An accident presupposes an occurrence. An injury is a result.**
(c) An "accident" as herein used, which results in external or internal injury to a person, presupposes an occurrence, such as a blow, impact of a locomotive, car, machinery, equipment, tool, material or other object, a slip, a trip or fall, or any mishap, usually unforseen, resulting from an action arising in the operation of a railroad as defined in ss125.11 above.	**(c) An "accident" which results in an "injury" to a person presupposes an occurrence, such as coming in contact with a locomotive, car, machine, device, apparatus, tool, on-track or off-track vehicle, material, or other object; a slip, a trip, or a fall; or any unforseen mishap.**
(d) The Act makes clear that "accident" and "injury" are not synonymous terms, and therefore an injury must be the result of an accident, or in other words, some physical agency arising from the operation of a railroad as herein defined in ss125.11 above must inflict injury as defined in ss125.12(c) above.	
ss125.15 *"Accidents" not to be reported.*	**ss125.15 *"Accidents" not to be reported.***
(b) No accident resulting in damage to property or a personal casualty is reportable if it arises from some agency located either on or off railroad premises, which agency is not an employee then engaged in, or part of the railroad used in, transportation. However, any resultant collision or derailment which causes a reportable casualty or damage of more than $750 to a moving train, locomotive or car must be considered as arising from the operation of a railroad as herein defined in ss125.11 above.	**(b) Delete in its entirety.**
(c) No accidents and resulting casualties are reportable when caused by an extraordinary force of nature as defined by the United States Weather Bureau (for example, such as floods, earthquakes, hurricanes, tornadoes, and electrical storms). However, any resultant collision or derailment which causes a reportable casualty or damage of more than $750 to a moving train, locomotive, or car must be considered as arising from the operation of a railroad as herein defined in ss125.11 above.	**(c) Extraordinary forces of nature are those which records of weather conditions at the location of the accident indicate have not previously occurred. No accident is reportable which is caused by an extraordinary force of nature, except that when the failure of signal or interlocked switch apparatus, caused by unusual weather, even though combined with one of those forces, contribute to the occurrence. Such accidents arise from the operation of a railroad.**
(d) The consequences of horseplay or assault by persons upon one another on railroad trains or on that part of a railroad used in transportation are not considered as arising from the operation of a railroad as herein defined in ss125.11 above.	

SAFETY EQUIPMENT FOR HANDLING

. . . Antimony Trichloride

The correct usage of personal protective equipment for anhydrous antimony trichloride requires the education of the worker in the proper employment of the equipment available to him. Under conditions which are sufficiently hazardous to require protective equipment, the use of it should be supervised and the type of protective equipment selected should be capable of control over any potential hazards.

The following personal protective equipment should be used when indicated.

Eye Protection

Chemical Safety Goggles: Cup-type and rubber-framed goggles, equipped with approved impact resistant glass or plastic lenses, should be worn whenever there is danger of the material coming in contact with the eyes. Goggles should be carefully fitted by adjusting the nose piece and head band to insure maximum protection and comfort.

Spectacle-Type Safety Goggles: Metal or plastic rim safety spectacles with unperforated side shields which can be obtained with prescription safety lenses or suitable all-plastic safety goggles may be used where continuous eye protection is desirable. These types, however, should not be used where complete eye protection against chemicals is needed.

Face Shields: Plastic shields (full length, eight inch minimum) with forehead protection may be worn in addition to chemical safety goggles where complete face protection is desirable.

Respiratory Protection

Respiratory protective equipment must be carefully maintained, inspected, cleaned and sterilized at regular intervals, and always before use by another person.

Personnel wearing such equipment must be carefully instructed as to its operation and limitations.

Industrial Canister Type Gas Masks, equipped with full face pieces and approved by the U. S. Bureau of Mines, fitted with the canister for absorbing acid vapors, smoke and dust, antimony trichloride and hydrogen chloride vapor, will afford protection against concentrations not exceeding 2 percent by volume when used in accordance with the manufacturer's instructions. The oxygen content of the air must be not less than 16 percent by volume. The masks should be used for relatively short exposure periods only. They may not be suitable for use in an emergency since, at that time, the actual vapor concentration is unknown and it may be very high. The wearer must be warned to leave the contaminated area immediately on detecting the odor of a harmful vapor. This is an indication that the mask is not functioning prop-

(Continued on the next page)

The above material is from "Chemical Safety Data Sheet for Antimony Trichloride (Anhydrous)" published by the Manufacturing Chemists' Association, Inc. The complete data sheet, in addition to information on personal protective equipment and fire fighting, includes background data on the properties of antimony trichloride, hazards, engineering control, employee safety, handling and storage, tank and equipment cleaning and repairs, waste disposal, medical management, and first aid. Copies of the complete data sheet (SD-66) are available for 30¢ from: Manufacturing Chemists' Association, Inc., 1825 Connecticut Ave. N. W., Washington 9, D. C.

erly or that the vapor concentration is too high.

Note: Where carbon monoxide may be encountered in addition to hydrogen chloride, the mask should be equipped with an "all purpose canister" and a "timing device" as approved by the U. S. Bureau of Mines.

Chemical Cartridge Respirators may be used to avoid inhaling disagreeable but harmless concentrations of hydrogen chloride and antimony trichloride vapor. These respirators, however, are not recommended for protection where toxic quantities of an air contaminator may be encountered.

Head Protection

Safety or "hard" hats will provide protection against accidental liquid leaks, falling tools, and other objects.

Brimmed felt hats may be substituted for safety hats where danger of falling objects is remote.

Foot Protection

Leather or rubber safety shoes with built-in steel toe caps are recommended for workers handling drums or carboys of antimony chloride. Rubbers may be worn over leather safety shoes. Rubbers and shoes should be thoroughly washed and ventilated after contamination.

Body, Skin and Hand Protection

Aprons made of rubber or other suitable protective material should be used for protection against accidental contact.

Long gloves made of rubber or other suitable protective material should be worn to protect the hands from antimony trichloride.

Sleeves made of non-porous protective material should be worn when the need for complete arm protection is indicated.

When cleaning, inspecting, or repairing tanks, safety equipment such as safety belts, rescue harness, lifeline, protective clothing and gas masks should be worn as required by the specific nature of the works and the hazards involved.

Frequent inspections and necessary repairs should be made to all personal protective equipment so that it is always ready to give proper protection to the wearer.

Whenever necessary, facilities for personal cleanliness should be provided and time allowed for thorough washing before lunch and at the end of the work day.

All contaminated clothing, including gloves, shoes, coveralls, etc., should be removed immediately to avoid prolonged contact with antimony trichloride and should be thoroughly decontaminated and cleaned before reuse.

Fire Fighting

When fighting fires involving trichloride firemen should be equipped with suitable self contained breathing apparatus to give protection against inhalation of hazardous products of combustion.

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Another Accident Checked

Welding Helmet Saves Eye

Welders are often subjected to two types of eye hazards: harmful rays from the welding operation itself and flying-particles during chipping and grinding operations. An accident of the latter type was checked by a welder's helmet.

The welder, J. W. Pittman, Jr., of the Humble Oil & Refining Co., was using a high speed grinder when the grinding wheel broke and shattered the outside glass lens of his helmet. The inner safety-glass lens withstood the impact and his eyes were uninjured.

By courtesy of Humble Oil & Refining Co.

Fifteen or more persons can be seated comfortably for demonstration inside the mobile training unit being used by U. S. Steel to instruct employees in the plant lubricating system's maintenance.

Lubrication Classroom On Wheels

United States Steel has put a traveling classroom into service to give its employees theoretical knowledge and practical job know-how in the proper maintenance of plant lubricating equipment. The classroom is a 35-foot mobile training unit, equipped with all the components of a centralized lubricating system.

Built by U. S. Steel's National Tube Division, which has the responsibility for lubrication research for the Corporation, the unit is mounted on a bus chassis so that it can be driven to any plant location.

The specially constructed steel body seats as many as 15 people for demonstrations. Along both walls are removable panels upon which are mounted operating lubricating system components. These can be plugged into a built-in lubrication reservoir for "live" demonstrations with actual lubricating materials.

(Continued on the next page)

Officials of plant at which this 35-ft. traveling classroom was built give the efficient unit a survey as it prepares to take to the road on an extensive tour of the U. S. Steel plants which it will serve.

Work benches are located at each end of the demonstration area.

National Tube fitted the mobile unit with every type of lubricating equipment used in U. S. Steel plants. Employees at any plant thus can be given instruction on equipment identical to that in operation at their particular plant location. Demonstrators can convert from one type of equipment to another simply by placing different panels in the wall mounts.

The mobile unit carries its own generator and can operate independent of outside power. However, it can be plugged into a plant power source where this can be done conveniently.

It is completely air conditioned and has a heating system for use during inclement weather. It also is equipped with a public address system, and carries a movie projector which is used in conjunction with a built-in screen.

Accident Frequency

(from page 14)

rules and regulations as may be prescribed by the said Commission, which report shall state the nature and causes thereof and the circumstances connected therewith.' "

Rule ss125.14(b) pertaining to the types of injuries that are reportable states: "Injury to an employee sufficient to incapacitate him from performing fully and acceptably and without extra assistance **all** of the duties customarily included in the assignment of the employee at the **time of injury** for more than three days (72 hours) in the aggregate during the ten days (240 hours) immediately following the accident. This rule applies to employees on duty, and to those classed as not on duty, but does not apply to employees classed as passengers or trespassers. Incapacitation, which includes Sundays, holidays, and layoff days, begins:

> "Whenever the pain or inconvenience resulting from the accident becomes so serious that it would prevent the injured person from performing all of his duties whether or not there is necessity or opportunity for him to do so at the time, and Incapacitation ends:
> Whenever the injured person has recovered sufficiently to be able to resume performance of all his duties whether or not there is necessity or opportunity for him to do so at the time."

It is with this so-called "1–3 day accident" (incapacitation for from 1 to 3 days) that we are concerned, as these accidents are **not** included in the lost time frequency, as published by the Interstate Commerce Commission, Bureau of Transport Economics and Statistics, in their "Summary And Analysis Of Accidents On Railroads In The United States Subject To The Interstate Commerce Act."

For example, let us look at the records of seven railroads for 1955 and 1956, as shown in Table 1 and compare the rates as now reported with those based on methods used by other industries. In the right-hand column of rates note especially the relationship of the so-called 1–3 Day Accident to the Total Injured (includes killed), on which the frequency is based, and also the column for Actual Frequency if the railroad industry were using the American Standards Association, Z 16.1-1954, method of recording and measuring work injury experience.

In addition to excluding those accidents which result in disabling injuries of less than 72 hours duration, there are listed under Rule ss125.13 other "occurrences **not** to be classed as **accidents arising from the operation of a railroad**," as follows:

"(e) Disability representing the cumulative effect of repetitive use of tools or appliances or exposure to the elements or to chemicals, fumes, gases, and the like, shall not be classed as an accident. This limitation does not apply to disability arising from a single exposure to chemicals, fumes, gases, and the like.

"(f) Disability resulting from contact with animals, insects, reptiles, poisonous weeds or leaves, or like objects not arising from the operation of a railroad as herein defined in ss125.11."

Just how does the Accidents Reports Act define "operation of a railroad" and "accident"? Table 2 gives the pertinent sections as found in Appendix A of the "Rules Governing Monthly Reports of Railroad Accidents" and also, from Appendix B, the changes in those rules which became effective January 1, 1957. These changes result in a further distortion of the frequency by eliminating certain work classifications not considered pertinent to "the operation of a railroad as an operating entity."

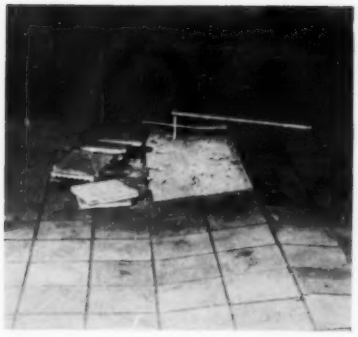
Not True Picture

The point I want to make is that if frequency is an accepted standard of measurement for accident prevention, then the frequency used by the railroad industry does not reflect its true accident picture as it eliminates the 1–3 day accident and by the changes effective January 1st, 1957 eliminates further work classifications which are included in the frequency of other industry.

It might be interesting to note that because of these changes, the frequency (employee accidents) of the railroad industry are no longer used by the National Safety Council.

Defenders of the railroad accident reporting system may argue that the accident reports of the railroads are more accurate than those of other industries because the railroads are required to make these reports under oath to the Interstate Commerce Commission. Based on my own actual experience, however, this is a weakness because it places too much emphasis on the **reportable** I.C.C. accidents and the railroads tend therefore to lose sight of the importance of all the other accidents that result in lost time, even if they are not reportable. This method of reporting creates a false sense of security within the industry in relation to the over-all accident prevention program and it does not portray the true picture of the accident situation to the railroad executive.

Therefore, in the interest of accident prevention, it would seem that the industry itself should take steps now to change this method so that it will be in agreement with other industry.



HOW POOR MAINTENANCE RUINS — quarry tile

In the hard tile family, one of the most common types of tile floor is Quarry Tile. The durable and permanent nature of this tile has probably been responsible for the idea in the minds of many maintenance men that "anything may be used to clean it." This is not true.

The tiles themselves will not depreciate because of the lack of maintenance; but improper maintenance can destroy the grout around the tile, dulling and discoloring the attractiveness of the tile surface. Thus, such care often leads to expensive repairs and makes the cleaning program longer, harder and more costly.

The larger picture shows quarry tile and the results of a harsh alkaline cleaner that has eaten away the grout around the tile. The great density of quarry tile prevents practically any absorption into the tile itself; but a continued use of alkaline powders has a marked tendency to set up a crystaline expansion in the cement joints, causing them to crumble. According to Dr. D. W. Kessler (Bureau of Standards Report #350), this effect is not chemical but purely physical. The salt solution penetrates the surface; but in drying, only the water evaporates, leaving the salt within. Crystals of the salt form in the pores and as they increase in size, the pressure is exerted within. Naturally, the material (in this case the concrete, which is more porous and weaker than the tile) will begin to crumble under such treatment within a short time. This expansion of crystaline salt often causes heaving of the floor. (See the smaller picture.)

Soap type cleaners leave a gummy, sticky film of grease. Because soap is difficult to rinse, it keeps on building up a heavy coating of soap scum and dirt. Eventually the floors become dark, streaky, uneven in color, just as shown by the surface of the tile in the picture. This becomes extremely difficult to remove; and it might be noted that this condition exists to even greater degrees in areas where the water is hard.

The break-down of any floor usually can be traced to the use of improper, reacting cleaners. Safe neutral cleaners simply attack the dirt and soil on the floor and do not attack the floor itself. The surface protection or seal that is used as original treatment of the floor is not removed by a neutral chemical cleaner, and thus the original protection is maintained. Periodic re-sealing of the floor and grout, or re-coating with waxes or finishes (depending on the type of floor) acts as a cushion against wear. To clean and maintain tile properly and safely, all that is needed is—

1. a neutral, non-alkaline chemical cleaner, free from lye or caustics

. . . to provide safe, thorough cleansing action without hard scrubbing;

. . . to prevent formation of harmful alkaline deposits;

. . . to prevent a slippery film from forming, as is often left by inferior soap and water cleaning.

2. a penetrating finish seal

. . . to protect the tile surface

and grout from water, stains and traffic wear;

. . . to prevent efflorescence, bleeding, bloom;

. . . to brighten colors and give a desirable high gloss "anti-slip" finish.

Next month, the September issue of "Safety Maintenance" will carry a feature on "How Poor Maintenance Ruins Marble."

Material by courtesy of Hillyard Chemical Co.

Mobile Carrier for Radiation Source

Radiographic inspection has been made easier, faster, and safer in the Torrance, Calif., plant of The National Supply Company where it is used extensively to ensure flawless steel castings, forgings and weldments. These advantages have been gained by means of a mobile carrier which provides remote control for positioning and retracting a radioactive cobalt 60 "pill" from behind protective concrete walls.

National Supply built an outdoor enclosure to Atomic Energy Commission specifications for radiographic testing. It has concrete walls 18 inches thick and seven feet high. Large parts can be carried into the enclosure by truck through a gate, or by truck-crane over the wall.

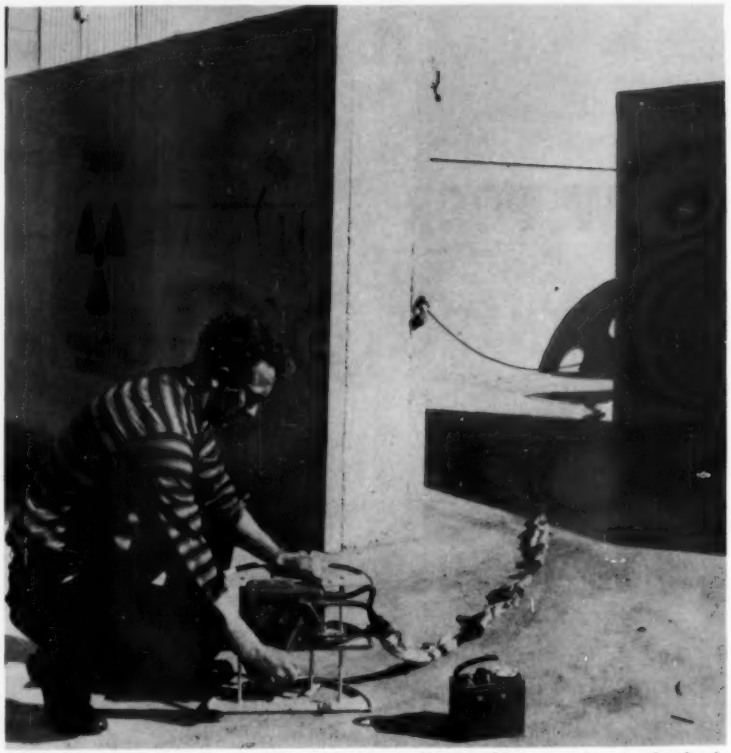
The mobile unit has a flexible projector tube in which the cobalt 60 "pill" is guided to the point from a lead storage safe, and a control unit on the end of a long flexible metallic cable which is unreeled to a safe distance outside the walled enclosure. The projector tube is supported in proper position after the radiographic film is in place on the part to be tested. A manually operated crank and gear wheel on the control unit operate a rack-type chain drive which propels the "pill" out through the tubing on the end of a flexible cable to the point of exposure. After exposure, crank operation is reversed to draw the "pill" back into the lead storage safe. Safety of this method of handling the radioactive material is further increased by lights on the control unit which indicate the position of the pill—within the shield, emerging, and in exposure position.

The new equipment extends the practical applications of radiographic examinations of large steel parts by The National Supply Company. For smaller parts the company has two other radiation sources which are used to check the quality of steel parts.

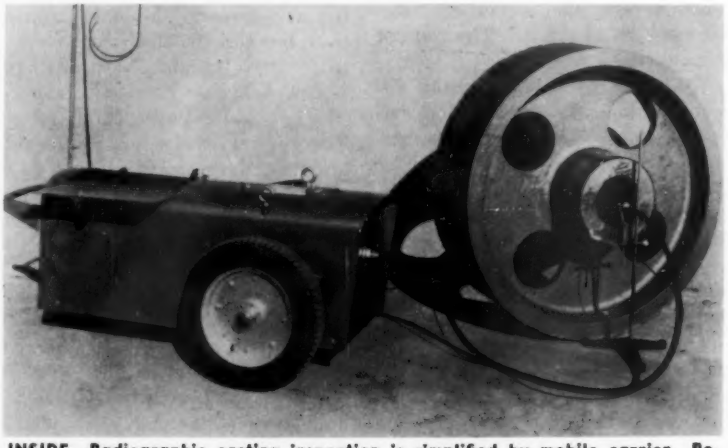
Picture by courtesy of The National Supply Co.

Safety Maintenance SALUTES

A SAFETY IDEA



OUTSIDE—Control unit outside concrete walls provides remote, mechanized handling of radioactive cobalt 60 "pill" for radiographic casting examination.



INSIDE—Radiographic casting inspection is simplified by mobile carrier. Remote control propels radioactive "pill" from storage safe to point of use.

Edited by HENRY M. GROSMAN
Counselor at Law, Newark, N. J.

MEMBER . . . . . .
Master Superior Court, New Jersey
American Bar Ass'n, New Jersey Bar Ass'n,
Chairman, Committee on Workmen's
Compensation, New Jersey Bar Association
National Federation Insurance Counsel
Past Commander, American Legion, Post 10,
. . . . . Newark, N. J.

LONGSHOREMEN'S AND HARBOR WORKERS' COMPENSATION ACT—Notice—Findings of Fact

The lower court had found that the employer was not adversely affected by lack of written notice. The claimant suffered a heart attack on January 31, 1956. The following day, claimant's wife telephoned her husband's employer and told one of the workers that her husband was ill—that he had had a heart attack and was in the hospital. No other notice was given the employer until the claimant filed a formal claim for occupational compensation in January, 1957. For a period from January 31, 1956 to January, 1957, the claimant received "non-occupational sick benefits" through his employer. The employer contended that he did not receive timely notice of the claim asserted. The higher court noted that the employer sent the claimant non-occupational sick benefits and that therefore an employer reasonably might conclude that the employee suffered an illness not due to his occupation. The court held that there was no notice of any type that a work-connected injury, or illness, had been suffered until January 25, 1957, or almost a full year after the illness occurred. The district court found the lower court's decision was in error and the employer's motion for judgment on this issue of law was granted.

Good Impressions, Inc. v. Britton; United States District Court, District of Columbia. No. 921–58. October 24, 1958.

FEDERAL EMPLOYERS' LIABILITY ACT—Dependency—Statute Construed

In an action under the Federal Employer's Liability Act, illegitimate children may not maintain an action to recover damages for the alleged negligent killing of their putative father. Five illegitimate children sued the employer under the Federal Employer's Liability Act. The only question involved was whether the illegitimate children were proper parties in the suit against the employer under the federal statute. The federal act does not define the word "children." Hence, the court held that the word "children" would have to be determined by state legislation. The court stated that the absence of a definition indicated the intention of Congress to permit the determination of that question according to state law.

Under the New Jersey statute, illegitimate children can only inherit property by and through their maternal heirs or next of kin. The court held that in the absence of statutory provisions modifying the common law with respect to illegitimate children, the word "children" found in a statute (whether qualified by the word "lawful" or not) is to be construed as only those who are legitimate. If others are intended, this must be deduced from the language employed without resort to assumptions. Complaint dismissed.

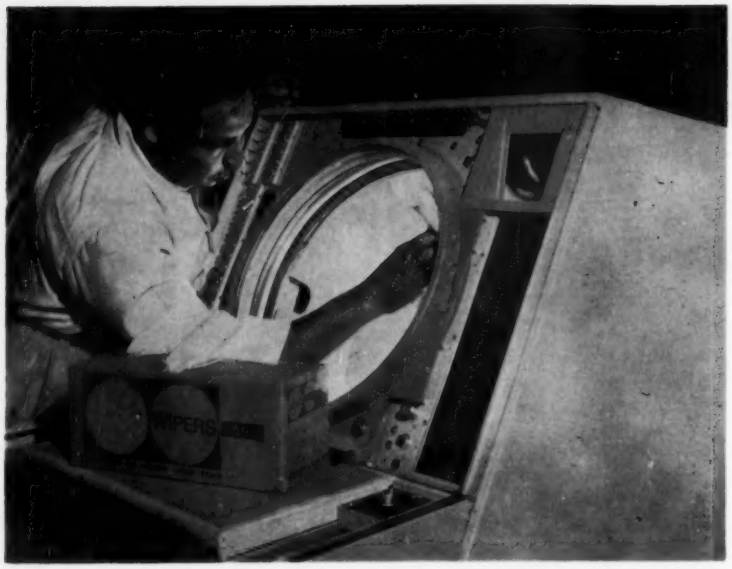
Hammond v. Pennsylvania Railroad Co.; New Jersey Superior Court, Law Division, Monmouth County. No. L-1184–57. February 13, 1959.

LAY WITNESSES' TESTIMONY REFUSED—Extent of Disability—Statute Construed

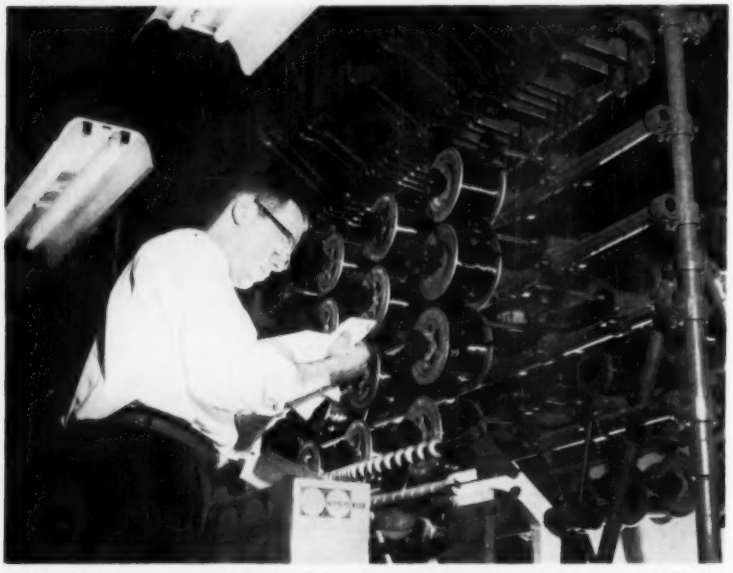
The lower court had refused to permit three of the claimant's lay witnesses to testify concerning the claimant's complaints of present pain and suffering made between the time of the accident and the trial. The claimant contended that at the time of the trial, which was a little less than a year from the date of the accident, he still suffered pain. Two doctors denied that the claimant had suffered any pain except for a short period after the injury. The company doctor testified that the claimant was exaggerating his injury and he was partly faking.

The court held that the claimant suffered harm from the exclusion of the evidence. It stated that, while the claimant was denied his proof of the duration of the injury, the employer's witnesses were permitted to testify about the identical matter. Also, two experts for the defendant attacked the credibility and the reliability of the claimant while the claimant was denied the production of testimony which would have helped prove his own reliability. Since this excluded evidence related to a crucial issue (the length of the disability), to deny the claimant's three witnesses the opportunity to testify was more than minor error when taken with the other factors in the case. Reversed and remanded.

Salinas v. Casualty Insurance Company of Calif.; Texas Court of Civil Appeals. No. 13441. April 8, 1959.



Consoles of electronic equipment are wiped clean before crating for shipment. Dust, foreign matter are removed so unit will be unsoiled when it is received.



Grit and dust are carefully wiped from coated wires in order to prevent their breaking through while wire is undergoing the important coil winding operation.

Good Housekeeping

(from page 9)

or oil from a previous wiping application which could cause skin cuts or irritation.

The lint-free feature of the wipers is helpful where dust and lint cannot be tolerated in production operations. For example, electrical contacts and connections are wiped clean without leaving deposits, that could impair the circuits. Particles of dust and other extraneous matter are scooped up in hundreds of "Perf-embossed" cavities that give the wipers a pebbly feel and appearance.

Strength of the paper wipers makes them practical and economical for removing excess solder during "harness lacing" in assembly of electronic apparatus. As a wiper becomes covered with solder, it is discarded in a nearby receptacle and replaced immediately with a clean wiper from a dispensing box. Cost of each wiper is less than a cent apiece. It is said that solder embedded in a cloth wiper could not be removed by laundering.

One box, containing 125 two-ply wipers—a supply sufficient for several hours' work—is placed between every two assembly line operators. This saves space for other articles such as soldering irons, screw drivers, scissors, and the electronic components being assembled. By keeping only essential articles on the work benches, employees can devote full attention to their work and lessen the chances of accidents caused by inattentiveness.

Used wipers are collected and deposited in "Dempster Dumpsters" for daily pickup and incineration, virtually eliminating any chance of fire from spontaneous combustion. This disposal system also keeps floors free of materials on which an employee could slip and fall.

The over-all result is a litter-free plant which could qualify for a good housekeeping, as well as a safety award.

Pictures by courtesy of Scott Paper Company.

Eye Safety

(from page 8)

is no more effective method of administering a program then demonstrating that the careless worker has no defense. The decision of a joint committee deprives the uncooperative worker of all his alleged defenses. He has been found guilty by a jury of his peers. The meaning of this one aspect of a joint program is most evident to the foreman, for he is no longer converted into a snooper. Anyone who has not seen workers policing themselves in a safety program cannot fully understand the idea of voluntary cooperation.

To conclude, the basic specific of any prescription which the trade union movement might write for an industrial vision program would be voluntary cooperation between management and labor. This ingredient is not a universal cure or nostrum; it must be applied with care and used within the limits of its purpose. Mere presence of a union in the plant is not enough, but capable management imbued with sincerity will be more than repaid for any offer of good will with a response that can be had in no other way.

From an address presented at the 1959 meeting of the National Society for Prevention of Blindness. Picture by courtesy of "Steelways."

Glove Program

(from page 13)

to call in the suppliers of gloves or other safety equipment to let them see what the problem actually is and get their recommendations.

These manufacturers' agents are qualified persons for the most part and they are at your service to help you settle your problems in the field of safety protective equipment. They will do their best in providing you with the best piece of equipment since a poor judgment on their part can mean loss of future sales and they most certainly are looking for your continued business.

Inform Supplier

If your operations involve acids or other corrosives that may affect the wearing quality of gloves, etc., then let the supplier know of these condition so that he can supply the proper type of equipment.

We have on many occasions made lenghty tests on new or modified types of gloves and handpads but will not make any commitments on their application until we are perfectly satisfied that they will do the job. When we make trial tests on these gloves, we give them to the employee who wears the gloves the hardest or complains that he is not getting enough wear from the present type of gloves or handpads. This is the employee who will really give the sample a good test since he wants better protection for himself personally.

Dealing With Vendors

Retain good relationships with your equipment vendors. You have to depend on them to keep you supplied with the goods to reduce injuries. In my opinion it's advisable to deal with more than one supplier so that in the event he runs into labor disturbances you can continue to secure the material you require from another source. It is also a good idea for competitive price reasons.

Some plants may not have space to store large quantities of equipment which you will need steadily. Arrange with your supplier to stock the material in his warehouse and deliver so much each month. In

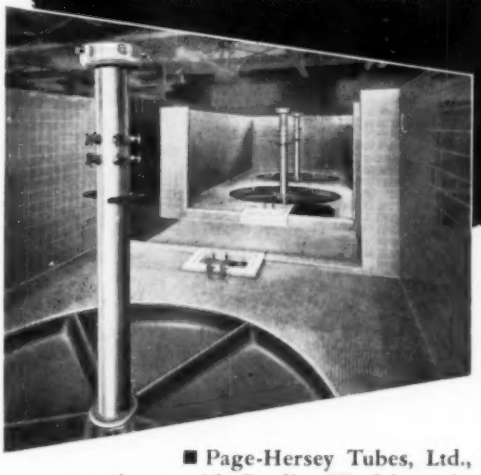
■ Architects and Consulting Engineers, Babcock, Scrivener Limited; General Contractor, Dickey Construction Co.; both of Toronto.

In the NEW Page-Hersey Tubes Plant

■ The full circle 54-in. models shown accommodate 8 to 10 persons, provide maximum capacity in minimum space with 80% fewer piping connections.

12 BRADLEY WASHFOUNTAINS AND 4 FIVE-PERSON SHOWERS

The finest wash and shower facilities!



■ The Showers shown have five receptors for each column. They can be installed directly on floor also and for privacy supplied with stall-separating partitions with or without curtains. Columns also are made in stainless steel or enameled iron.

■ Page-Hersey Tubes, Ltd., having had previous experience with Bradley Washfountains in other plants—installed twelve 54-in. circular models in their modern plant at Welland, Ontario, Canada.

Bradleys provide maximum in sanitation. Eliminate chance of spreading infections because there are no faucets to touch—the supply of tempered water from the central sprayhead is controlled by means of the foot ring.

And here's economy in shower baths—each Bradley Column has five shower heads—*one* set of piping connections—*one* installation job for *five shower baths.* Each person has complete control of water volume and temperature.

For your projected new plant or for modernizing of present wash and shower facilities—Bradley offers major advantages at lower total cost . . . Catalog 5601 includes helpful data. Write for a copy to BRADLEY WASHFOUNTAIN CO., 2229 W. Michigan St., Milwaukee 1, Wisconsin.

Write for Catalog 5601

BRADLEY *washfountains and showers*

Distributed Through Plumbing Wholesalers

(For details, use Key # H-4 on card on page 1)

that manner you keep your inventory down but at the same time are assured of an adequate supply.

A good point to bear in mind once that you have bargained for a particular type glove or handpad, etc. is to obtain the specification for this equipment and supply it to your purchasing division. Then every vendor who bids on the equipment will know what is required and can base his price accordingly. It is also good advice to have the material spot-checked periodically by shipment to determine if it meets the standards that were called for in the specifications. If it fails to meet your standards, don't hesitate to return the shipment at once for replacement.

Investigate Complaints

If you receive complaints from your people using the equipment investigate their complaints. It may mean the savings of many dollars in future shipments of these goods. For example, if some of your employees complain that gloves are too tight fitting and you don't investigate the complaint, the employees may get to the point where they will go without gloves for a while. If one of them suffers a severe laceration, then you will pay in costs of the injury. Find out why the gloves are not fitting your employees. Many people are unaware that regular canvas gloves are made in two sizes, one for males and the other for females. Another factor is the weight of the canvas and the grade of material. You should know these factors so that you can deal properly with your suppliers.

There are a number of ways in which finger and hand injuries can be eliminated or lessened. A few of these ways are as follows:

1. Guard machinery safely.

2. Instruct employees in the safe operation of equipment.

3. Give specific safety instructions when assigning a job.

4. Provide the most efficient materials handling arrangements.

5. Analyze all of your finger and hand injuries, together with their causes, and provide corrective measures whenever it is possible.

In our company, as in a great many other organizations, most of the employees work on an incentive pay rate and in many ways this causes the employee to think of ways to "beat the rate" which, in turn, causes him to take chances and expose himself to injury or a potential accident. For that split second the employee is not thinking of what might happen to his hand or fingers, but rather, of how much he can make on the "short-cut" he is planning. We all know in safety work that the chance taker is the accident maker.

During the year 1958, we expended in our company $30.58 per employee for the cost of safety equipment supplied to him. This included not only gloves, handpads, or armguards, but also safety glasses, aprons, respirators, welding protective equipment, and other safety devices. Also, our safety program total cost, including compensation and preventive expenses such as the safety and medical personnel salaries, etc., amounted to $57.90 per employee.

We believe that safety is something that you may never feel the full value of; but when you don't have it in full effect, and accidents begin to mount up, your costs will soon tell you that you should have provided a lot more safety.

It may appear sometimes that safety costs a great deal more than you can say you get back for it, but just take six serious accidents a year in any shop or plant and you will find the costs on these six cases will more than pay for a basic safety program.

Protection Indispensable

The subject of adequate protection for hand or finger injuries can be discussed both pro and con with the thought of too much or not enough of protective equipment provided; but stop and analyze each job and consider how many injuries might be recorded if you failed to provide any protection whatever. On the other hand, if the employee is required to wear too many pieces of apparel, they may slow down the job.

In some cases of our own employees, a handpad is sufficient to do a job safely, while in other jobs where a greater hazard exists, the employee is required to wear a pair of canvas gloves, with a handpad over the gloves and an armguard to protect his arms from metal edges. With any less equipment than this, the employee would be subject to suffering slashed arms and lacerated palms of both his hands.

In our company, we use terry-cloth, 12 oz. and 18 oz. canvas gloves, rubber or neoprene gloves, leather gloves, steel-studded gloves, plastic-coated gloves, aluminized and asbestos gloves. Each of these types of gloves has a certain application and is kept within that application. Employees needing any of these special makes or styles of gloves must obtain approval from the Safety Department.

Our Safety Department works very closely with the supervisors. We act as advisors or consultants to the supervisors and as a service department, and not as a police bureau. In this way we get their cooperation in recommending the correct type of safety equipment by knowing their needs and by giving them a fair test by their own employees.

From an address presented at the 29th Greater New York Safety Convention.

Uses of Teflon

A new brochure, "How to Use Sheets, Rods, Tubes, Tape and Other Standard Shapes of Teflon," —can now be secured from Commercial Plastics & Supply Corp. of New York City, distributors for the Du Pont product.

Uses for Teflon have increased so much over the last several years an updated pamphlet and "guide" was needed by many engineers and purchasing agents in a variety of interested industries. Du Pont has supplied that need with text and illustrations that can be understood by all.

Commercial Plastics will make the brochure available on request to its headquarters offices at 630 Broadway, N. Y. C., or at its branches in Miama, Fla., Greensboro, N. C., Pittsburgh, Pa. and Philadelphia, Pa. and at Newark, New Jersey.

Revised Code for Refrigeration Safety

A revision of the American Standard Safety Code for Mechanical Refrigeration (ASA B9.1-1958) has just become available at $1.00 per copy from the American Standards Association, Dept. PR 30, 70 East 45 Street, New York 17, N. Y.

The changes incorporated in the 1958 revision concern a number of technical details which keep the code abreast of technical developments in the field of refrigeration. For the first time, occupancy classification for use of the code includes single family private residences. Sponsored by the American Society of Refrigerating Engineers, the code is intended to provide standards of safety which can be readily adopted by any organization using mechanical refrigerating equipment or by any regulatory authority concerned with safety regulations.

The code covers the safe design, construction, installation, operation, and inspection of every refrigerating system employing a fluid which is vaporized and normally liquefied in its refrigerating cycle.

Provisions of the code do not apply to the use of water or air as a refrigerant nor to refrigeration systems installed on railroad cars, motor vehicles, motor drawn vehicles or on shipboard.

Health Hazards Guide

"Occupational Health Hazards—Their Evaluation and Control," was developed jointly by the U. S. Department of Labor and the Occupational Health Program of the U. S. Public Health Service. It is designed as a practical guide and source of information for those charged with protecting the worker's health in the highly complex operations that typify our present-day industrial activity.

State labor department safety consultants and insurance company safety engineers will find it helpful in their safety consultative work with industrial establishments. Part- or full-time safety supervisors and safety representatives of labor organizations will find it of aid in identifying potential health hazard conditions and where to get help in appraising and controlling them. Industrial physicians and nurses will find it helpful to their understanding of industrial causation of occupational health problems.

Copies of Bulletin 198 are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 25 cents a copy. Single copies are available, without charge, from the Bureau of Labor Standards, while the supply lasts.

Instruments for Studying Atmospheric Pressure

Publication of the third edition of "Instruments for the Study of Atmospheric Pressure" is announced by The American Society of Mechanical Engineers. The booklet, which is a comprehensive listing of devices useful in air pollution investigation and control, has been completely revised and en-

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the Rapido Line
Fastest Custom Fit Frame In The World

FITS ALL YOUR WORKERS COMFORTABLY:
- Patented Retrax® Temples slide in or out for instant fit.
- Universal Nose Bridge, a perfect fit for every worker.

ACCOMMODATES YOUR PRESENT STOCK OF 57 LENSES:
- Spread-end frame makes lens replacement easy
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ALSO
- Nylon hinges for superior strength
- Extra deep lens channels for extra safety
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232 West Exchange St. PROVIDENCE 3, R. I. In Canada: Levitt-Safety Limited, Toronto 10, Montreal 26, Winnipeg.
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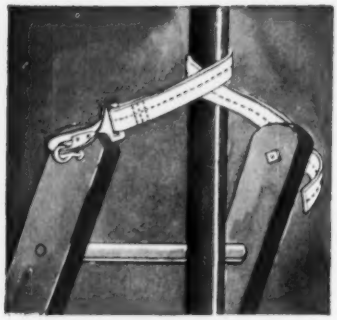

SAFE-HI LADDER LASH NEW STEP UP IN CLIMBING SAFETY . . .

Can Be Used on Horizontal or Vertical Poles or Pipes!

Knotty ladder ropes have finally come to the proverbial "end of their rope" since the invention of Ladder Lash, latest product of Rose Mfg. Co. The Safe-Hi Ladder Lash, a parachute web strap, solidly anchors ladders for high-climbing workmen, ending the hazards of wobbling, tottering ladders. Ladder Lash will anchor on poles up to 20" in diameter making it ideal for utility pole use as well as any other horizontal or vertical poles or pipes.

No Groping in Mid-Air

Ladder Lash does away with top-rung confusion. In one quick motion the strap is wrapped around any horizontal or vertical pole, the forged steel snap is clipped into the swivel eye bolt and the strap is pulled through the adjustment slide until taut. A simple device, Ladder Lash is easily attached to any ladder. Workmen are sure to like the dependable safety features of the Safe-Hi Ladder Lash.

Safe-Hi Pole Grip Adds Extra Safety Feature

Use Ladder Lash and Pole Grip together for the extra measure of safety. Safe-Hi Pole Grip, already favored by "Higher-up's," is made of 4-ply web strap 26"x1¾" wide with a center section of neoprene tread for super gripping strength on vertical poles.

#632—Pole Grip **#645—Ladder Lash**

Safe-Hi **ROSE MANUFACTURING COMPANY**
2700 W. Barberry Pl., Denver 4, Colo.

(For details, use Key # H-6 on card on page 1)

larged, according to F. S. Mallette, executive secretary of the ASME Committee on Air Pollution Controls. The Committee sponsored compilation of the work.

The booklet is designed to aid businesses and government in obtaining suitable equipment for the study of their particular smog problems. Categories include measuring of smoke density samples, particles, gases, vapors and liquids, wind, rain, snow and humidity, all either separately or together.

All individual listings, which range from filter paper samplers to gas chromatographic equipment plus the names and addresses of their manufacturers, have been brought up to date, said Mr. Mallette.

The format of the second edition, which was an innovation, has been kept. A ten-part outline lists the instruments under general headings. The second, main section amplifies the outline by a complete breakdown of categories. All of these are keyed to the manufacturers' names and addresses, which comprise the third section.

The booklet, which is priced at $2.00 per copy, is available from the Order Department, ASME, 29 West 39th Street, New York 18, N. Y.

Psychology of Safety

A new publication containing two important papers—"Accidents and Life Experience," by Flanders Dunbar, M.D., Ph.D., Med. Sc. D.; and "Accidents and Attitudes," by Leon Brody, Ph.D.—has been published by the N. Y. University Press.

Dr. Dunbar is a world-famous psychiatrist whose classic approach and extensive clinical experience are reflected in her clearly written and highly informative paper on underlying causes of accidents.

Dr. Brody, Director of Research at the University's Center for Safety Education, has tackled in his paper the complex and elusive problem of attitudes, a topic that today seems to rank at the top of the list in the minds of safety educators, driver educators, licensing authorities, enforcement officials and specialists in industry. An extensive bibliography is included. Both Dr. Dunbar and Dr. Brody refer to specific applications of knowledge along preventive and corrective lines.

Single copies of the publication, "Basic Aspects & Applications of the Psychology of Safety" are priced at 50¢ (twenty copies—40¢ each) and can be ordered from: Center for Safety Education, New York University, Washington Square, New York 3, New York. Please make checks or money orders payable to: Center for Safety Education, N.Y.U.

Wire Rope Handbook

The availability of a new WIRECO Wire Rope Recommendation Handbook for wire rope users has been announced by the Wire Rope Corporation of America. The new handbook was compiled by WIRECO engineers to give wire rope users a complete, basic working knowledge of the characteristics of different wire ropes and slings. The book details uses in virtually all industries, and outlines how to select, order and use the correct wire rope to do a specific job.

It is designed for use by engineers, contractors and builders. The handbook is indexed by these categories: construction, drilling, industrial, marine and fishing, mining, logging elevator and other allied fields which use wire rope. It appears to be concise and easy to understand, and offers the user complete details on how to specify WIRECO wire rope.

The Wire Rope Recommendation Handbook is available free of charge to all wire rope users in the United States through WIRECO Distributors, representatives or the company. Others may purchase a copy by writing the Wire Rope Corporation of America, 609 North 2nd St., St. Joseph, Missouri, price $1.00.

School Fire Study

The National Fire Protection Association has just released its final, comprehensive report on the tragic Chicago school fire last December.

It called the 93 deaths in that fire "an indictment of those in authority who have failed to recognize their life safety obligations in housing children in structures which are fire traps."

Immediate action was urged to correct conditions in older-type schools that "lack adequate exit facilities and automatic sprinklers, and that have excessive amounts of highly combustible interior finish, substandard fire alarms and poor housekeeping conditions."

These were the principal factors responsible for the large loss of life in the fire at Chicago's Our Lady of the Angels School, the report said. Basically important was failure to provide adequate facilities to get children safely and quickly out of the school, according to the report.

The 28-page analysis, based on investigations at the scene by two NFPA engineers, also contains a section of planning for school fire safety. One of a long series issued by the 62-year-old non-profit organization, the authoritative report is designed primarily for study by school and fire authorities as well as all others concerned with the operation, maintenance and construction of public buildings.

Its ultimate aim, however, is to spur local authorities into action to correct dangerous conditions in their own communities. Copies of "The Chicago School Fire" are available (at 25c each) from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

New Alarm Standards

The National Fire Protection Association has published three new editions of its standards on Signaling Systems. These standards include NFPA Standard No. 71, Central Station Protective Signaling Systems; NFPA No. 72, Proprietary, Auxiliary and Local Protective Signaling Systems; and NFPA No. 73, Municipal Fire Alarm Systems. All three revised editions were adopted by the Association at its annual meeting in Chicago on recommendation of the NFPA Committee on Signaling Systems.

Standards Nos. 71 and 72 include complete revisions of the sections on outside and inside wiring and changes in the provisions for the location of fire detecting equipment. Standard No. 73 on Municipal Fire Alarm Systems is a complete revision prompted by new developments in this field. This is typical of NFPA procedure which includes a continual study of its standards and development of new standards to meet current methods.

The Committee on Signaling Systems, under the chairmanship of Boyd Hartley, New York, is made up of experts in this field who serve voluntarily to develop these standards which, like other NFPA standards, are aimed at the reduction of loss of life and property by fire. NFPA has more than 110 technical committees working on standards covering all phases of the fire protection field.

NFPA Standards No. 71 (32 pages, 50 cents), No. 72 (48 pages, 50 cents), No. 73 (48 pages, 50 cents) may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

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C. A. Moreno, Jr. (left) receives a slide projector as prize in B&L Safety Contest. Center is Hiram Sanders, B&L branch manager, Birmingham; and at right, Joseph Hickey of the B&L Atlanta office.

U.S. Steel Official Wins Safety Contest

C. A. Moreno, Jr., general superintendent of safety at the Fairfield, Alabama plant of United States Steel Corporation, is the winner of a safety lens contest sponsored by Bausch & Lomb Optical Co. The contest was held in Chicago, October 20–24, 1958 at the 46th National Safety Congress and Exposition. The feature attraction at the B&L booth was a motor-driven, 2 pound ball-pein hammer which dropped freely 4½" on a regular safety lens. The impact of the hammer was equivalent to .87 foot pounds of energy or twice the Bureau of Standards requirement for safety lenses.

1,100 Submit Guesses

Delegates were told that the hammer had been started on October 1st at the company's Rochester, New York plant, and were invited to submit written estimates as to the number of blows the original lens could withstand before shattering. Over 1,100 delegates submitted guesses.

Since the Chicago safety show, the hammer display (still pounding the original lens) was exhibited at conventions and meetings throughout the United States. On March 30th, the lens finally shattered, having been struck 381,198 times by the metal hammer. Mr. Moreno is the winner, since his estimate of 380,000 is closest to the actual count.

Safety Check List For Scrap Yards

Scrap yards and scrap disposal departments of manufacturing concerns have their share of accidents that could be avoided. Good housekeeping and good maintenance of mechanical equipment are vital factors in getting rid of accidents during scrap disposal. The Institute of Scrap Iron and Steel, Inc., offers the following safety check list for supervisors or safety committees:

SHEARS

Are gear guards in good condition, in proper positions, firmly anchored?

If electrically operated, is ground wire properly attached to frame of motor and to grounding rod?

Is work area clean and uncluttered?

BALING PRESS

Are oil leaks cleaned up, and repairs made to prevent oil from getting into pit and on stairs or walk areas?

Are windows clean so operator has clear view of men working near pit?

Is area around pit clear and smooth with no holes, bent plates, or other tripping hazards?

CRANES

Have wire ropes been inspected for broken wires, signs of wear, proper installation of rope clips?

Are sheaves properly aligned, well-lubricated?

Have brakes been inspected for worn linings, proper action?

Is fire extinguisher in operating condition?

Have limit switches been checked?

TOOLS

Have all hand tools been inspected for defects, and either repaired or replaced?

SAFETY EQUIPMENT

Have goggles been inspected, and broken or worn parts, scratched lenses, etc., been replaced?

Are all gloves and hand leathers in good condition?

Are hard hats and safety shoes in good condition?

TORCHING EQUIPMENT

Have all hose lines been checked for wear, burns, cracks, or cuts?

Are valves and regulators in perfect working order?

Are tank support chains and hooks in good condition?

GROUNDS

Are grounds in good order with no excess materials scattered about?

Are walking areas level and free of holes?

Are walkways provided, so it is not necessary to climb over piles of material?

Is all material piled or stacked in a safe manner?

You Don't Need a Magnifying Glass to Make a Safety Inspection . . . Just Use Common Sense!

Employee's Suggestion Saves Eyesight of Colleague

Because Thomas Swank, raw materials pump man at the Bristol, Pa. plant of Rohm & Haas Company was wearing safety glasses at the time a valve handle broke, his eyesight was saved, and he joined the ranks of the Wise Owl Club.

The Wise Owl Club is a society of industrial workers whose eyesight has been saved through the use of safety glasses. This club was started in 1947 by A.C.F. Industries as a part of its safety program. The club has since been adopted by many industries throughout the country with great success.

The raw materials pump men in Tom's group were not required to wear safety glasses because they did not work in areas where flying particles were to be expected. However, in the regular monthly safety meeting of the group, it was suggested that safety glasses be worn, and the protective glasses were issued by the company. On April 6, less than two weeks after this meeting, Tom Swank was sampling from a tank containing 40,000 pounds of liquid methyl methacrylate monomer. As he opened the valve, the handle broke off, preventing him from stopping the flow. Instinctively, Tom put out his hand to plug the flow, and the methacrylate (which can cause serious eye injuries) sprayed into his face.

THE FIRE FRONT

May Losses Down

Estimated fire losses in the United States during May amounted to $81,597,000, the National Board of Fire Underwriters has reported. This $81,597,000 loss represents a decrease of 4.7 percent from losses of $85,633,000 reported for May, 1958, and a decrease of 10.0 percent from losses of $90,689,000 for last April, 1959.

Losses for the first five months of 1959 now total $482,999,000, a decrease of 1.7 percent from the first five months of 1958, when they amounted to $491,187,000. These estimated losses include an allowance for uninsured and unreported losses.

Fast-Acting Safety Crew

Fast extinguisher work kept a flash fire from becoming a disaster and saved at least one life at the Indianapolis "500" on Memorial Day. Dick Rathmann was just finishing a pit stop in the McNamara Special when spilled fuel ignited, surrounding the car with flame and spreading to the clothes of one of his mechanics.

In a fraction of a second, the pit fire crew had triggered their carbon dioxide extinguishers—shielding Rathmann, covering the mechanic from head to foot, and blanketing the spill. Despite the danger of an explosion, the crew kept up a steady flow of CO_2, and aided by other firefighters in adjoining pits the men emptied four 15-pound and one 50-pound extinguisher on the blaze in about a minute.

Although the mechanic suffered first and second degree burns, prompt action by the crew kept the fire from spreading past his hands and arms and saved him from deeper burns that could have proved fatal. Fire retardant clothing and a fast application of the carbon dioxide allowed Rathmann to escape unharmed.

The quick work also confined the blaze to Rathmann's pit. All pits contained some flammable liquids,

including gasoline with such additives as methanol, benzol, nitromethane, and diesel oil.

About $30,000 in fire protection equipment was provided for race safety by The Fyr-Fyter Company free of charge. The company also was responsible for inviting, training, and assigning the 100 firefighters who handled extinguishers in three-man teams in the pit area. The Speedway's own fire department also did an excellent job protecting areas away from the pit section. Three of the six cars involved in separate crashes required their attention. Extinguishing equipment available included carbon dioxide, dry chemical, foam, vaporizing liquid and hose installations.

Picture by courtesy of The Fyr-Fyter Co.

Duggan Heads SFPE

James J. Duggan, Director of Safety and Fire Protection of the Union Carbide Chemicals Company, Charleston (W. Va.), was elected President of the Society of Fire Protection Engineers convened in annual meeting in Atlantic City, N. J.

A Section of the National Fire Protection Association, the Society met during the five-day annual meeting of the NFPA, internationally known non-profit technical and educational fire safety group.

Other officers elected by the Society were: for first vice-president, Warren J. Baker, Manager, Technical Department, Insurance Company of North America, Philadelphia, Pa.; for second vice-president, John N. Pryce, Chief Fire Protection Engineer, Canadian Underwriters' Assn., Montreal, P.Q.; for secretary-treasurer, Robert S. Moulton, Technical Secretary, National Fire Protection Association, Boston, Mass.; for executive committee for three years, Hugh V. Keepers, Assistant Manager, Fire Prevention & Engineering Bureau of Texas, Dallas, Texas; and Alan L. Kling, Director of Loss Prevention, Olin Mathieson Chemical Corporation, New York, N. Y.; for executive committee for two years, Charles H. Howe, Jr., Fire Marshal, Montgomery County, Maryland.

Organized in October, 1950, the Society of Fire Protection Engineers has as its objectives to promote the art and science of fire protection engineering and its allied fields, to maintain a high professional standing among its members and to foster fire protection engineering education.

Oxygen Fire Hazards

Government and private industry have been charged with concealing information which would help reduce death-dealing oxygen fires and explosions. Arthur E. Miller, Director of Research for the Scott Aviation Corporation, Lancaster, N. Y., declared that much of the work which has been done by independent companies and government bureaus in investigating oxygen fires and explosions has not been publicly reported.

"The reason for this reluctance is the fear that some published information might at some future time be used in litigation against either the company who published the information or against one of its associates," he said.

(Continued on page 34)

Will Your System

In this picture, test valve is being opened wide to permit full flow of water for sufficient duration to register a waterflow.

How to Keep Sprinkler Systems in Working Order

1. Control valves must be kept open and water supplies maintained in service.

2. If fire occurs, sprinkler control valves should not be closed until the fire is out or under definite control by other means.

3. When, of necessity, sprinkler protection is interrupted, every effort must be made to limit the extent and duration of the interruption.

4. If a sprinkler valve is closed, shutting off any part of the system, notify your nearest fire insurance representative immediately.

5. Keep valves open and the sprinkler systems in service to the greatest extent possible during alterations and repairs.

6. After any alterations or repairs, make a special inspection to make sure that the valves are open, properly secured and the system in service.

7. Examine all control valves of each sprinkler system at regular intervals, preferably at least once each week.

(Continued on the next page)

Serious fires seldom occur in properties completely protected by properly maintained automatic sprinkler systems. It should be the obligation of the owners of the property where automatic sprinkler systems are installed to so care for such equipment at all times that the lives of those who are employed may not be needlessly endangered by fire, and that continuity of production and employment may not be interrupted.

The primary purpose of an automatic sprinkler system is to protect life and property. Automatic sprinkler systems employing standard devices and installed in accordance with established rules are sturdy and durable, and require a minimum of expenditure for maintenance. However, like other types of equipment, they may suffer deterioration or impairment through neglect or from certain conditions of service. Definite provision for regular and competent attention to maintenance is a prime requirement.

Where to Use High Degree Sprinklers

In locations where high temperatures are maintained, such as over boilers, ovens, heating equipment and in dry rooms, proper high-degree sprinklers must be used. High-degree sprinklers are appropriately colored in accordance with standards to indicate their temperature rating. Obviously, in locations having ordinary temperatures, such

FIRE PROTECTION SERIES
other articles Sept. & Oct.

Sprinkler Work?

Automatic sprinklers may be called upon to operate at any time . . . maybe tomorrow . . . maybe next year. Only with proper care and maintenance will they be able to do their fire-protective job.

high-degree sprinklers are unnecessary and should not be used because of the additional heat required before they will operate.

Protection Against Corrosion

Where sprinklers are exposed to corrosive atmospheres, special types of sprinklers which are coated to prevent or retard corrosion should be used.

A supply of at least six spare sprinklers of each degree-type used in the plant should be kept on hand in order that replacement may be readily made and protection promptly restored following operation of the system.

Weekly inspections of all sprinkler systems should be made and a written report of the conditions found should be signed, dated and examined by someone who has the authority to correct any deficiency, then filed for checking by fire insurance representatives at subsequent inspections.

By courtesy of the Factory Insurance Association.

At low points it is important to operate the drains at regular intervals in order to remove condensate from the sprinkler piping.

8. Provide for regular water-flow tests, to be made from test pipes at the top of each system and at the main drain of each system.

9. Sprinkler systems must be protected against the freezing of water in pipes or devices.

10. Obstructions, by stock or partitions, to the distribution of water discharged from sprinklers must be avoided.

11. Check sprinklers regularly to make sure they are in good condition, clean, free from corrosion or loading, not painted and not bent or damaged.

12. Sprinklers should not be painted. Those which may have accidentally been painted should be replaced with new approved sprinklers.

13. Check the air pressure on each dry pipe system at least once a week. Test dry pipe valves and drain drum-drips periodically.

14. The watchman should be a competent and trustworthy man, and should be instructed in the operation of the sprinkler system and what to do in case of fire.

Oxygen Fire Hazards

(from page 31)

Miller was addressing some 2,000 members and delegates at the 63rd annual meeting of the National Fire Protection Association. He declared that military and other governmental departments seem to be equally reluctant to give out their findings on this important subject.

"Although oxygen is technically a non-flammable gas it must be handled and treated just as cautiously and with as much respect as an explosive," Miller pointed out. "Oxygen itself will not burn, but it supports and tremendously accelerates combustion with any material capable of being consumed by fire."

Miller said one way in which the hazards associated with oxygen could be significantly reduced would be "if there was some means of inducing all oxygen equipment manufacturers, oxygen producers, the military services and other government bureaus to 'pool' their knowledge and information and make it available to an independent unbiased group who would evaluate all of the information available and use it either to establish definitely provable facts or as the basis for further research and investigation.

"The reluctance of industry to publicize its findings, coupled with the interdepartmental rivalry in some of our governmental divisions, makes such a program unlikely."

The Scott Aviation Corporation Research Director suggested that until a long range investigation into the incidents of oxygen fires and explosions can be undertaken and until definite recommendations as to the materials and techniques to be used in oxygen handling, usage and equipment can be developed, certain ground rules be followed.

He recommended that oxygen should only be used when no other gas will serve the purpose; that personnel should be trained to distinguish between compressed air, oxygen and nitrogen and to use the proper name. This would eliminate accidents resulting from the practice of using the name "air" for oxygen or nitrogen, thus implying that they are alike.

He further recommended that every effort should be made to keep oxygen away from combustible materials, and that the least combustible material should be chosen to be used with oxygen. Miller concluded: "Properly used, oxygen is indispensable; carelessly or improperly used, it can cause disaster."

Last Year's Large-Loss Fires

Devastating major fires struck American property at the rate of almost one a day during the past year.

Almost $295 million worth of buildings, industrial installations, forests and other property in the United States and Canada was wiped out by 356 "large loss" fires in 1958, the National Fire Protection Association has reported.

On 64 occasions, one million dollars or more went up in smoke in a single fire.

The figures on major fires—those with individual losses of a quarter million dollars or more—show a reduction in both number and total cost from the previous year, according to the non-profit fire safety organization.

The 1957 record, with 422 fires costing almost $350,000,000, was the worst in history in terms of dollar losses.

While the 356 major fires included in the 1958 report represent less than one percent of all fires during the year, they were responsible for approximately 20 percent of the entire annual dollar loss from fire.

According to estimates reported earlier by the NFPA, devastation by fires of all sizes in 1958 came to a record-shattering total of $1,305,000,000 in the United States, and $180,000,000 in Canada. Fire deaths exceeded 12,000, all but 620 of them occuring in the United States.

The dollar loss totals, points out the NFPA, do not take into account the tremendous indirect cost of fire waste which cannot be measured in money.

The annual analysis of large loss fires was prepared by the organization's Fire Record Department.

Of the 291 fires involving buildings, refineries and outdoor industrial facilities, 261 occurred in the United States and 30 in Canada.

Industry made the grestest stride in reducing losses from major fires. The number of industrial plants involved dropped from 125 in 1957 to 85 in the past year, with a reduction of almost $42,500,000 in dollar cost. The 1958 loss was $52,260,000.

Percentagewise, the largest drop was a 73 percent reduction in major church fires—from 15 the previous year to 4 during 1958. Major school and college fires were down also, to a total of 17 with losses of about $6,500,000 a reduction of approximately $900,000 from the previous year. There were no fatalities in these fires. The record did not include the Chicago school fire of last December, since property loss there was under $250,000.

Sharply counter to this trend was a rise in major store fires. Losses were up more than $11,000,000 to a total in excess of $37,000,000 and the number rose from 58 in 1957 to 81 last year.

Reasons for Major Losses

According to the NFPA analysis, both construction weaknesses and absence of protective sprinkler and alarm systems were mainly the reasons why minor fires got out of hand and became major losses.

Automatic sprinkler protection would have prevented 239 of the 286 large loss building fires. In 151 cases discovery and fire department notification were delayed because there were no sprinklers, alarm systems or watchmen.

Structural weaknesses ignoring fire safety standards included missing division walls, unenclosed stairwells and elevator shafts. These were major factors in allowing fire to spread throughout the building instead of confining it near the area of origin.

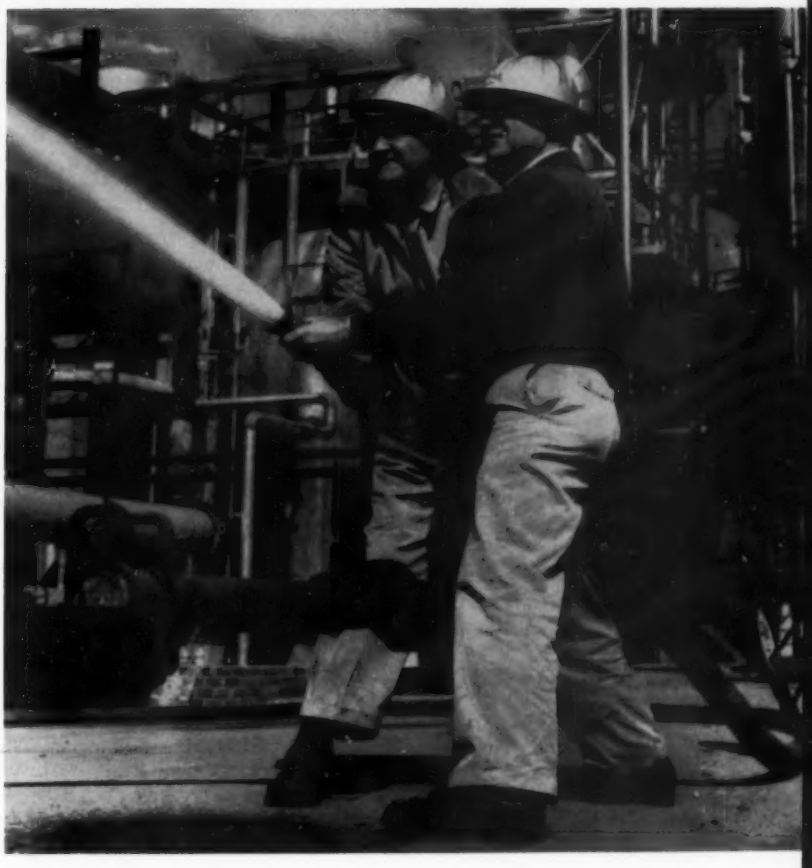
The NFPA described its analysis of large loss fires as a record of the "major fire protection failures of the year—the errors of judgment, the equipment that didn't work, the planning that was never done."

The key to elimination of such major losses is the limitation of the amount of property exposed to

(Continued on page 36)

Will Dacron Hose Meet the "Use" Test?

Fire hose combining "Dacron," neoprene properties has high outdoor durability, stores well on uncovered boat racks.



Easy handling characteristics of "Dacron" hose lend important safety advantage to hose kept on portable reels at strategic points throughout refinery.

Ashland Oil & Refining Company, following a thorough evaluation program in which neoprene fire hose jacketed with "Dacron" polyester fiber was tested under severe conditions, has bought more than 10,000 feet of this hose over a period of two and a half years.

In time, all fire hose used by Ashland Oil will be jacketed with the polyester fiber, according to John C. Wilson, the company's safety coordinator. Although this fire hose has higher initial cost, Mr. Wilson believes that the additional cost is justified.

Hose made with "Dacron" is now in use throughout all Ashland refineries and terminals. This hose is also in use aboard boats and tankers operated by the company.

Operating, maintenance, and safety officials of the firm based their decision to use this type hose on cost-performance information developed during the test period. It was found that the hose has high resistance to oil, chemicals, and abrasion; is undamaged by rats and mice; and possesses high strength and easy handling characteristics. Its resistance to mildew eliminated the need for thorough drying of the hose.

First step in proving out hose jacketed 100 percent with "Dacron" was to turn the test sample over to the maintenance department for use in cleaning tanks, washing down, and other demanding jobs. The hose withstood all tests imposed by the maintenance people.

"No attempt is made to baby this fire hose," John Carson, safety engineer at the firm's Catlettsburg refinery, says. "We drag hose through oil, mud, snow, or anything standing between us and a fire. We find this hose gives outstanding service under very rugged conditions." In addition to conventional refinery products, the Catlettsburg unit manufactures a wide range of asphalts, naphthas, solvents, and other specialty products.

An example of durability of the hose is found at the fire school maintained by the company. Here, six 50-foot lengths of two-and-one-half-inch hose of "Dacron" polyester fiber have been in use two years without failure. The school's hose receives no active maintenance, with complete dependence for long life and durability resting on the chemical and physical properties of the jacket fiber. Although this hose is used every day in fire fighting training activities, it shows no signs of wear.

A Chance Test

One dramatic test at the school resulted from chance. The school was flooded by the Ohio River. The hose was completely immersed in water and buried in silt for two weeks. When the water re-

ceded, the hose was salvaged, permitted to dry, then pressure-tested. Close inspection indicated no damage whatsoever.

Both one-and-one-half-inch and two-and-one-half-inch hose are used by Ashland Oil—the larger hose on portable reels located at strategic points throughout the refinery. Both sizes, totaling about 1,000 feet, are carried on the fire truck.

Single-jacketed hose is used on Ashland Oil's river boats. Captain Fred Downey of the M/V Cherrystone, used in transporting huge gasoline barges up and down the Ohio River, reports the hose offers significant advantages. He cites resistance to mildew as its outstanding contribution. Its high outdoor durability is important, because the hose is stored in uncovered racks for unhampered availability. Previously, hose stored in these open racks required frequent drying and servicing to prevent growth of mildew. The "Dacron" hose may be stored indefinitely with no drying and with no fear of mildew, he reports.

Fire drills constitute part of the day's work routine aboard the Cherrystone. Although this routine puts the hose in frequent use, it has shown no signs of wear during two years' service. Its high strength and ease of handling enable the crew to have water available for fighting a fire within 45 seconds after an alarm is sounded, the captain reports.

Hose of the polyester fiber specified by Ashland Oil is impregnated with neoprene to increase its weather resistance and provide a dark color, to eliminate some housekeeping chores associated with light-colored hose. This hose also contains a neoprene lining.

Pictures by courtesy of E. I. du Pont de Nemours & Co., Inc.

1958 Large-Loss Fires

(from page 34)

destruction in a single fire. This can be done through proper design of buildings and other structures, and through use of protection equipment like automatic sprinklers and alarm systems.

The international organization called on property owners as well as architects, engineers, fire protection officials and insurance people to discharge their responsibilities to make and keep property fire safe.

The largest single fire loss in either the United States or Canada during 1958 was the crash fire of a B-52 bomber at Ellsworth Air Force Base, South Dakota, on February 11. Damages totaled in excess of $10,000,000.

The $9,000,000 refinery fire at Signal Hill, California, on May 22 was the second largest property damage loss.

Canada's largest, aside from a forest fire, was the destruction of an aircraft hangar and five planes at Rimouski, P. Q., on July 13, at a cost of more than $1,400,000.

Other major industrial losses in 1958—an oil refinery, gas storage facilities, gas and power transmission lines, and a huge power transformer—totalled about $10,700,000.

The largest single industrial building fire destroyed a steel ball plant in Cicero, Illinois, on February 13, at a cost of $3,450,000.

Large loss store fires numbered 81 with a total loss in excess of $37,000,000. This was a sharp increase of 23 in number and about $11,000,000 in loss over 1957. Biggest single loss was the $2,434,000 destruction of a department store in Stockton, California, on July 22.

Warehouse fires of $250,000 or more damage numbered 43 with a total loss in excess of $21,000,000. This was a decrease of about $8,700,000 from 1957. Biggest was a $2,180,000 warehouse fire in Erie, Pennsylvania, on February 13.

Regional Records

Ohio led all other states, with 29 major fires. Illinois had 20, California 18, Pennsylvania 17, New Jersey 16, New York 15, Michigan and Texas 10 each. Eight states had no big ones—Delaware, Montana, Nevada, New Hampshire, New Mexico, North Dakota, South Dakota and Wyoming.

In Canada, the Province of Ontario had 15 large loss fires, Quebec 8. The Provinces of Alberta and New Brunswick had none.

Seven states have reduced large loss fires each year for the past three years: California, Indiana, Maryland, Minnesota, Nebraska, Oklahoma and Pennsylvania.

Regionally, the East North Central States reported 72 major fires, a gain of 4 over 1957. The East South Central States record of 15 showed an increase of 7. West South Central States reported 20 in 1958 and 20 in 1957. All other regional totals showed reductions: Middle Atlantic, 48 (from 75); South Atlantic, 32 (from 33); Pacific, 32 (from 40); New England, 19 (from 24); West North Central, 11 (from 24); Mountain, 9 (from 13).

Of the newest states, Alaska reported 3 major fires and Hawaii none.

Plastics As Fire Hazard

A study to establish the basic factors affecting the use of plastics in buildings as related to fire safety has been undertaken at the Southwest Research Institute, San Antonio, by the Manufacturing Chemists' Association, Inc. The one-year project, the first of its kind ever undertaken, will seek to establish the position of plastics as used in buildings relative to traditional materials, from the viewpoint of fire safety as related to building-code regulation.

A steering committee consisting of representatives of the sponsor and Southwest Research Institute will review procedures and progress at periodic intervals. MCA's Plastics Committee views the project as one which will provide a realistic and objective point from which may evolve the broadest possible use of plastics materials consistent with prime requirements for public safety.

Southwest Research fire technologists and research architects will utilize actual plans for two proposed buildings—one for a multiple-occupancy building such as an office building, and the other for a one-family house.

Elements or components will be identified where plastics might be used, now or in the near future. Then the study will determine where elements might be considered to represent a fire hazard, and the extent of any such hazard, together with the methods used in building regulations to evaluate such materials and uses.

transportation safety

"Demerit" System for Traffic Safety

"A systematic check, in terms of violations and accidents, on the road behavior of drivers is one of the greatest contributions that can be made to highway safety by motor vehicle departments," according to Dr. Walter A. Cutter, director of New York University's Center for Safety Education.

Dr. Cutter made the statement in commenting on a two-year doctoral study recently completed at the Center by Dr. Wallace N. Hyde, director of driver education and accident records for the North Carolina Motor Vehicle Bureau.

The study, focused on "the point system" currently in use in 25 states and two Canadian provinces, was carried out in cooperation with the American Association of Motor Vehicle Administration and the Institute of Government at the University of North Carolina. It was financed by a grant from the Esso Safety Foundation.

The point system assigns "demerits" for traffic offenses according to their seriousness. When a driver has accumulated a specific number of points in a given time period, action is taken to improve his driving habits or to withdraw his license. The use of the point system has grown steadily since its inception in 1947.

Dr. Hyde found widespread variations in the 25 point systems he reviewed. For example, in Maine a driver is assessed eight points for a conviction of "reckless driving," and under the provisions of the Maine point system he may have his license suspended when he has accumulated eight points over a three-year period. But in Minnesota a driver is assessed six points for a conviction of "reckless driving," and under the provisions of that state's system his license may be suspended when he has accumulated twelve points in one year.

These differences, Dr. Hyde states, confuse the driving public, particularly in interstate travel. In addition, he says, they are a problem to administrators who must take into account out-of-state violations by residents of their state. Most administrators feel strongly the need for a uniform code.

Among Dr. Hyde's other conclusions (based largely on the views of motor vehicle administrators) are the following:

- **Violations should be assessed points in accordance with their severity.**
- **One-third of the points required for license suspension should be assessed drivers who have been found at fault in an accident.**
- **The system should include provisions for sending a warning letter when the driver's record approaches the critical stage.**
- **The system should include provisions for a conference between the department and the driver at some time after the warning letter and before the suspension.**
- **Before license suspension is imposed, each driver should be given an opportunity to attend a hearing to show cause why his license should not be suspended. Not only does this permit the driver to contest the department's action if he feels that he has cause to do so, but it also assures the department of personal contact with problem drivers, which may have a therapeutic or educational value.**
- **Points should be erased from the driver's record three years from the date they are assessed.**

Safe Driving Booklets

In an additional effort to help rid the nation's highways of irresponsible motorists and to aid safety education programs, the Association of Casualty and Surety Companies has just published two informative pamphlets.

The first leaflet, "The Drinking Driver, Traffic Safety Delinquent No. 1," re-emphasizes the need to correct the evil of motorists who drive under the influence of alcohol. The other pamphlet, "Your Youth Traffic Safety Conference," is designed to serve as a guide for conferences in which young drivers from various schools and communities get together to identify common traffic accident problems and endeavor to provide solutions for these problems.

Thomas N. Boate, manager of the Association's Accident Prevention Department, pointed out that fifty percent of fatal accidents involve drivers who have been drinking to some extent. "Although the 'drunk' driver is obviously dangerous," he added, "as far as traffic safety is concerned, the so-called social drinker is far more dangerous."

The pamphlet discusses all aspects of the critical situation and urges "an enforcement tool, backed by proper legislation and informed public opinion, to aid in obtaining sure conviction of the guilty and to provide adequate protection for the innocent."

The "Your Youth Traffic Safety Conference" leaflet contains valuable recommendations for the preparation, participation in and follow-up to such conferences, including guidance to adult advisors.

The two-color pamphlets are a part of the continuing accident prevention services provided by the Association in behalf of its member

companies. Copies of the pamphlet, in reasonable quantity, are available without cost from the Accident Prevention Department, Association of Casualty and Surety Companies, 60 John Street, New York 38, N. Y.

Speed Narrows Sight Perception in Driving

When you step on the gas, you put blinders on yourself, warns traffic safety authority Edward R. Klamm. The faster you go, the less clearly you see the road, he says.

Writing in a recent issue of Aim magazine, employee publication of the Allstate Insurance Companies, Klamm says a driver's field of vision narrows as the speed of his car increases. Failure to realize this sight loss frequently leads to an accident. At 60 mph you can't effectively see much more than the width of the road. Going that fast, the eye simply can't dwell long enough on any one object to recognize and actually see it.

At high speeds, the driver looks out of a visual tunnel because his corner-of-the-eye perception has been blurred. The range of his side vision being reduced, he misses the common hazards and conflicts which cause accidents, especially around intersections and curves.

Emphasizing that it takes time to see, Klamm warns that high speed driving reduces ability to see at a time when the need to see is greater than ever. It's vitally important that we adjust our speed to how much we can see, not according to any speed limit or highway design.

"If you know your eyes—their limits and capabilities—and if you help them see for you, you'll be an odds-on favorite to avoid accidents," Klamm says.

Since 90 percent of a driver's reactions are based on his sense of sight, motorists should practice the following rules and let their eyes do an efficient job of seeing.

1. Driving demands full attention. You simply can't see what you're not looking at.

2. By scanning the entire traffic pattern rather than staring straight ahead, you can spot far more accident causes—and much sooner.

3. On the road at night, let your headlight range govern your speed —no faster than you can stop in the distance illuminated ahead.

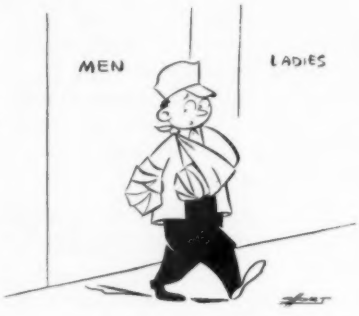
4. Frequent shifting and blinking of the eyes will help cut down eye fatigue, especially at night.

5. If oncoming lights bother you, look at the right shoulder of the road, away from the lights.

6. To better identify objects at night, look above, below or to their sides. Your eyes are designed to see better that way in dim light.

7. If you wear corrective glasses, wear them whenever you drive.

8. Above all, be sure that your windows and lights are free of dirt, condensation, snow or ice. You can't avoid danger if you can't see it.



Accidents Are Not Only Painful And Expensive . . . They Are Inconvenient

ISM Meeting Draws Big Crowd

The New York Chapter of the Institute of Sanitation Management drew over 230 to its June special meeting, divided into three sections for sanitation managers representing the different Divisions of the Institute.

The Buildings and Industrial Divisions met jointly to discuss the testing and approval of cleaning materials. Sanitation techniques to prevent the spread of infections in hospitals were studied by the Institutions Division. How to design plants and equipment for easier cleaning and sanitation was outlined by the Food Processing and Mill & Bakery Divisions and personnel from drug manufacturing firms.

The three-way meeting was one of a series held by the Institute's New York Chapter to provide the maximum possible information and discussion of subjects unique to the different industrial and institutional groups represented in ISM. Such separate discussions are alternated with general meetings on subjects common to all sanitation administrators regardless of industry background. Other Institute Chapters across the country have adopted the alternate meeting plan to better serve the diverse operations represented by the Institute's membership.

Materials Testing

A wide range of cleaning and maintenance materials was discussed in the lively session of the buildings and industrial group. In the course of describing how they test and approve materials, the speakers and the audience discussed general and special cleaners, waxes and synthetic floor finishes, treated sweeping systems, floor machines, scrubbing and buffing pads, liquid and powdered hand soaps, special washroom products, wet and dry pick-up vacuums, and others. Most administrators said that their approval procedures included extensive in-use testing and rating by workers and their supervisors. The ultimate decision to approve a product or group of products was in all cases the responsibility of the sanitation administrator working through a requisition or similar system with his purchasing department.

The general aspects of infection control in hospitals were thoroughly discussed by the institutions group, with particular reference to staphylococcal infections. Speakers emphasized the control of dust and air flow as a major means of controlling the spread of infections in hospitals. Other factors named were identification of carriers and the consistent use of germicides in contaminated areas. The group was reminded that nearly all outbreaks of staphylococcus infections are originally caused by an individual carrier, and identification of the

carrier is therefore extremely important, followed by strict control of the avenues of communication of disease.

One speaker illustrated with slides the results of experiments conducted in his hospital on air filtration and circulation. The experiments were the first part of a two-year study on modes of the spread of infections in hospitals, under a U. S. Public Health Service grant. The results showed "dramatic evidence" of the importance of germicidal filters in hospital air systems. Many filters now in hospitals are "useless in controlling the spread of contaminated air," he asserted, and "often seed the air with bacteria." Further experience in the study will be reported as results become available.

Food and drug plant personnel in the third section of the meeting held a stimulating and lively discussion of many aspects of the design and construction of plants and processing equipment. Discussion leaders described the basic design features of their plants and equipment, basic sanitation procedures, and tools and chemicals used.

One speaker described the experience of participating in the design of a completely new plant for Arnold Bakers, scheduled for construction in the near future. He particularly emphasized the sanitation advantages of bulk flour handling, and the several types of tiles and impervious coatings being used in the construction of the surfaces of fermentation rooms and other critical processing areas.

Another speaker emphasized the sanitation aspects of construction and equipment required of Pepsi-Cola franchised bottling plants. He described in detail the equipment and plant areas in which sugars and syrups are handled, and the techniques used in cleaning these areas.

In an informal poll of some 40 people at the meeting, it was learned that some 85% of the sanitation administrators actively participate in recommending construction and equipment features for sanitation purposes in the design of plants and purchase of equipment.

The speakers and audience joined in a lengthy discussion of many aspects of food and drug plant sanitation, including in-place cleaning of processing equipment and lines; installation, construction materials, and automatic cleaning of conveyor belting; placement and design of pan and bottle washing equipment; insect control; inspection and control of ingredients, and other subjects.

Full Time Safety Promotion Campaign

In an effort to promote safety interest among employees on the job and with their families at home, General Petroleum Corporation has started a safety quiz contest at its Torrance refinery. Realizing that 15 times more injuries were being sustained off work than on the job, company officials decided that something should be done to promote "safety in depth."

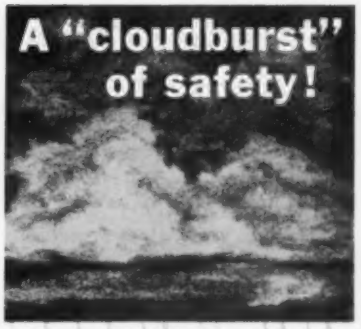
Here's how the quiz works: Cards with the names and telephone numbers of Torrance manufacturing department employees are placed in a cylindrical drum. Certain management personnel and members of the fire and safety department have been excluded.

Once each month on a week night the drum is taken to the office of the operating shift superintendent where the drawing, under careful supervision, is held. The five men present select a safety question of the month and then draw a card. If the person called cannot answer the question correctly, additional cards are drawn until there is a winner. Any person in the household called can answer the question.

Effect of Program

Impact of the first month's contest is being felt throughout the refinery. One man, unable to answer the question, spread the word and everyone in his section was prepared for the next contest.

General Petroleum officials feel that an awareness of elementary safety practices at home is the first step toward achieving a substantial reduction in lost time accidents occurring away from work.



Volatile chemicals and propellants can cause serious accidents—but serious injuries need not result if water irrigation is immediately available! Haws Decontamination Booth provides the "cloudburst" that rapidly rids the body of harmful irritants. Victims walk on the foot treadle and are instantly bathed in water from a dozen nozzles. Haws Eye-Face Wash is simultaneously activated—a pressure controlled unit with a perforated face-spray ring and twin eye-wash heads. Booth is acid resisting fiberglass plastic, and is delivered complete, ready for tie-in to existing facilities. Write for details on the full line of models.

HAWS DECONTAMINATION BOOTH

MODEL 8600

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San Francisco 11, California, U.S.A.
(Use Key # H-8 on Inquiry Card on page 11)

THE U. S. TREASURY SALUTES THE CHEMICAL INDUSTRY

—and its people who buy Savings Bonds and strengthen America's Peace Power

Every family and every industry in this country benefit, directly and indirectly, from the work of our great chemical industry. Those whose lifework is in chemistry may well take pride in the vast good that stems from their profession. Thousands upon thousands of people in the chemical field are proud, too, of their share in America's Peace Power, for they are making regular purchases of U.S. Savings Bonds.

Buying Shares in America through the Payroll Savings Plan is a convenient and systematic way to practice thrift. It helps these patriotic people enhance their resources for home building, for education and for greater security after retirement.

If your company has not yet installed a Payroll Savings Plan, start at once. The easy first step is to telephone your State Savings Bond Director for the help he will give you, gladly. Or write to Savings Bonds Division, U.S. Treasury Department, Washington 25, D. C.

JAMES C. VICKERS is pictured here practicing his highly specialized skills in one of our country's great chemical plants. Mr. Vickers is typical of the thousands of expert workers in this field who are buying U.S. Savings Bonds regularly. Mr. Vickers uses his company Payroll Savings Plan to make regular contributions to the Peace Power of his country.

SAFETY MAINTENANCE

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Safety is Profitable

The active and major policy interest of top management has been an essential factor in the outstanding success of the safety program of the Braden Copper Co. in Chile and its cost has been insignificant compared to the results achieved, Stanley M. Jarrett, Director of the Safety and Industrial Hygiene Department told the Mining & Exploration Division of the Society of Mining Engineers recently. The Braden Copper Co., a subsidiary of the Kennecott Copper Co., has won the Inter-American Safety Trophy eleven consecutive years.

"The cost of our safety program is insignificant in comparison to the results that have been achieved. The numerous innovations introduced throughout the years have brought about gradual and effective improvements of working conditions and the almost complete elimination of occupational disease hazards, which has been recognized officially by the Chilean Government.

"The results obtained at Braden the past eleven years prove that mining, long considered one of the most hazardous endeavors, can become a monument to safety and progress when management, supervisors and workers strive together for a better future and solve their problems to mutual satisfaction."

The Braden Copper Company's Chile organization employs between 6,000 and 7,000 persons and provides townsites for some 18,000 persons. Its El Teniente mine is the largest underground copper producing mine in the world, with an annual production capacity of approximately 10,900,000 dry tons of ore. Mining is by progressive block-caving. The ore is dropped through a gathering-raise system to the lowest level, then is transferred to electric ore-haulage trains and transported about two miles to the crushing plant.

"Safety is a profitable investment," said Mr. Jarrett. "The Safety Department is staffed directly to general management and has 100 percent support from Braden's management. Safety is not just a personnel problem. It also involves engineering, training, planning and production techniques, plus the elements of suitable accident statistics, compensation laws and procedures, and the ability to sell the program to all company personnel, to government agencies and to the public. Management, in its direct contact with the Safety Department, must provide the same kind of leadership and initiative it strives to attain in its constant urge to reduce waste and produce more economically."

Mr. Jarrett went on to say:

"The international prestige acquired by the company in the field of safety and industrial hygiene involves certain moral obligations. We feel it our duty to lend every assistance in promoting a keener sense of safety-consciousness throughout the country. Industrial safety is relatively new in Latin America. We have assumed the role of a training and counseling staff. Our assistance is offered to representatives of the Government, semi-fiscal instituations and local industrial concerns. Braden makes available annual training courses for doctors, hygienists and engineers graduating from the School of Sanitation of the University of Chile. Courses on safety and industrial hygiene are given at our department to the majority of safety directors and technicians of Chilean industry."

Mr. Jarrett outlined the company's program of safety training among teachers, school children, the police, city fire departments and other groups, and its other efforts to assist Chile and Latin America in this field. While this educational work has been on an unselfish basis, Mr. Jarrett listed these advantages to the company:

"A major contribution to cost reduction. Better labor and public relations. Acceptance by Government authorities of the company's role in Chilean safety. Training of individuals who later will assume important positions in the Government or in private industry, assuring their respect and asistance to our programs."

The awards during eleven consecutive years, 1947–1957, involve the Mining Division Class A Safety Contest, sponsored by the Inter-American Safety Council, for the lowest frequency of accidents in Latin America for large scale mining operations.

Fire Tests of Building Materials

Building officials and manufacturers of building materials will be interested in an announcement by the National Fire Protection Association of the publication of four standards on fire tests. These standards include new editions of NFPA No. 251, Methods of Fire Tests of Building Construction and Materials; NFPA No. 252, Methods of Fire Tests of Door Assemblies; NFPA No. 255, Method of Test of Surface Burning Characteristics of Building Materials; and a new NFPA Standard No. 256, Methods of Fire Tests of Roof Coverings.

All of these standards were adopted by the Association on recommendation of the NFPA Committee on Fire Tests. The Committee also recommended withdrawal of NFPA No. 253, Fire-Tube Test for Treated Wood and No. 254, Standard Method of Test for Combustible Properties of Treated Wood by the Crib Test, and this action was approved by the Association.

Changes in NFPA No. 251 include a new definition of noncombustible, a reference to the application of roof assemblies during test, and a revision of the requirements of testing under load conditions.

NFPA No. 252, Fire Tests of Door Assemblies, is a complete revision of the former edition dated 1950.

The Method of Test for Surface Burning Characteristics of Building Materials, NFPA No. 255, is a new title for the Standard formerly called Fire Test for Fire Hazard Classification of Building Materials and is also a complete revision of that standard.

The Methods of Fire Tests of Roof Coverings, NFPA No. 256, is a new standard on this subject.

Fire test standards play an important role in the over-all field of fire protection and particularly in the development of many standards.

NFPA Standard Nos. 251 (16 pages, 50 cents), 252 (16 pages, 40 cents), 255 (8 pages, 35 cents) and 256 (16 pages, 50 cents) may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Industry Defense and Mobilization Course

Because of the demand for this type of training, two more Staff College Courses in "Industry Defense and Mobilization" have been scheduled at the OCDM National Operational Headquarters in Battle Creek, Michigan. One course will be conducted on August 24–28, and another on November 16–20.

Purpose of the Course—In the the event of nuclear attack on this country our survival will depend to a large extent on the ability of American industry to protect its employees and plants, preserve its corporate structure, and take measures for restoration which will insure continuity of production. The Office of Civil and Defense Mobilization has developed the National Plan for Civil Defense and Defense Mobilization which was recently signed by the President and has now been published. An important part of the National Plan is the national program for industrial survival which provides for the protection and continuity of the national industrial plant and the requirement for management to plan pre-attack protective measures in order to carry out post-attack actions.

This course will provide industrial executives with practical information and training in practices and procedures for protection from nuclear attack and major peacetime disaster in industrial plants. Thus it will help industrial firms achieve a greater measure of security through employees who have a knowledge of the basic fundamentals of industrial survival planning, and thereby give greater assurance of national survival.

Who Should Attend—The course is open to all who have responsibility for emergency and disaster control planning in industrial plants, institutions and other large buildings and facilities. They include industry defense supervisors, personnel directors, safety directors, training directors, security supervisors, plant protection officers, state and city industrial defense coordinators, and others who have related responsibilities.

Course Methods—Instruction is provided by lecture, demonstration, panel presentation and discussion, workshop, case studies, project sessions and group discussions—supported by visual aids and extensive working material. Exercises based on simulated attack and major disaster conditions are set up and students play an appropriate role in meeting and solving problems. Heavy emphasis is laid on relating discussions and examples to individual problems. Small project groups choose and discuss particular questions of broad interest brought in by students. Other sessions call on students to solve company problems taken from actual experiences. Classes are from 8:30 a.m. to 5 p.m.

All students who properly participate in all classwork and satisfactorily complete assignments made by instructors will be awarded a certificate of completion.

Costs and Accommodations—There is no charge for tuition. Modern, well-appointed, comfortable rooms are available in the OCDM buildings, and are available at $1.50 per day, per person. Residence in these rooms is limited to students who are registered for this Staff College Course. Accommodations are also available at reasonable rates at nearby hotels.

Enrollment and Registration—Enrollment in each class will be limited, therefore, applicants will be accepted and enrolled in classes in the order of the receipt of their applications. Enrollment forms and other information may be obtained from your local or State civil defense director, or from the Office of Civil and Defense Mobilization, Battle Creek, Michigan.

NFPA Dry-Cleaning Booklet Published

If people do not know the dangers of dry-cleaning, the attractive and effective new folder just put out by the National Fire Protection Association will set them straight. "You Are On the Spot" spells out the rules for safe handling of dry-cleaning fluids, but suggests it is wise to use the services of a professional cleaner who has the know-how to handle flammable solvents.

Use of this low cost folder may help reduce the frequent injuries and home fires caused by improper use of dry-cleaning fluids.

The folder is a timely item for public distribution in connection with home inspection programs or otherwise. Copies available from NFPA, 60 Batterymarch St., Boston 10, Mass. at $2 per 100, $12.50 per 1000.

Are We Doing Enough About Fire Protection?

Much of American industrial plant management is ignorant about fire, according to Keith Royer, supervisor of firemanship training at Iowa State College. He expressed this view as a result of his experience with young and fast-growing mid-western industry.

"In my opinion," he said, "too many industrial plants still purchase fire equipment, organize fire brigades and carry out other fire safety practices only to meet insurance requirements."

Mr. Royer was addressing some 2,000 authorities in the field of fire protection assembled for the 63rd annual meeting of the National Fire Protection Association in Atlantic City.

Still deluded by the belief that "it cannot happen to us," plant management looks upon fire safety matters as necessary evils until a disastrous or near-disastrous fire occurs within their plant, Royer said.

"In many plants we find that management assigns fire protection responsibilities to people who do not want them and have no interest in them."

Royer said that plants are penalized insurance-wise on account of this ignorance, and urged insurance companies and rating bureaus to recommend to these unfortunates that they seek competent assistance in the area of fire protection, engineering services, and local fire protection, in order to get relief from these penalties.

Royer was of the opinion that this simple dollar-and-cent angle might induce management to take advice from authoritative sources of fire protection information such as the National Fire Protection Association and to use available educational facilities.

industrial hygiene

Water Pollution Laws

Publication of a compendium of state and federal water pollution abatement laws of the United States was announced by the Manufacturing Chemists' Association. The fifty-three chapters of the compendium cover the laws of the fifty states, federal laws and those of the District of Columbia and Puerto Rico pertaining to water pollution.

One chapter is devoted to each state or jurisdiction. It describes the organization of the water pollution control commission or agency and gives its address; describes the commission's water pollution abatement policy, gives a resumé of the law and briefly outlines the rules and regulations in force.

Credit for preparation of the book published by MCA's Water Pollution Abatement Committee is given to Carl E. Geuther, of the Legal Department, E. I. du Pont de Nemours & Co., Inc.

In the preface Mr. Geuther points out that the purpose of the compilation is to provide a handbook for reasonably easy reference. It is planned to keep the work up to date by the issuance of bi-annual supplements which correspond generally to state legislative sessions.

Copies of Manual W-5—Compendium of Water Pollution Laws—are available at $5.00 each from the Manufacturing Chemists' Association, Inc., 1825 Connecticut Ave., N. W., Washington 9, D. C.

Radiation Limits

"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionucleides in Air and Water for Occupational Exposure," National Bureau of Standards Handbook 69 (supersedes NBS Handbook 52), 95 pages, 35 cents, issued June 5, 1959. (Order from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.)

This Handbook contains the latest recommendations of the National Committee on Radiation Protection and Measurements (NCRP) concerning the maximum permissible internal exposure of the human body to radioisotopes. These recommendations represent a revision of the ones published by the NCRP in 1953.

The earlier recommendations were for occupational exposure, 24 hours per day, continuously for 70 years. Prepared by the Subcommittee on Permissible Internal Dose, the study took five years to complete and included nearly 75 radioisotopes.

The work has continued at an accelerated pace since 1953 with the added cooperation of the International Commission on Radiological Protection (ICRP). The present Handbook includes maximum permissible concentrations (MPC) and body burdens for some 240 radioisotopes and includes many refinements based on knowledge not available in 1953. The study has included the evaluation of nearly 2000 separate researches reported in the literature, having bearing on the permissible dose problem.

The new values reflect, where applicable, the lowering of the basic maximum permissible dose (MPD) recommended by the NCRP in 1957 and 1958. As a result of all of these considerations, some values have been increased, some decreased, and others remain essentially the same. In addition, the calculations have been changed from 70 years continuous occupational exposure to 50 years continuous occupational exposure, a more realistic figure for radiation workers. All maximum permissible concentrations (MPC) are given for both 40- and 168-hour weeks.

The recommendations in this Handbook are to be considered only as recommendations of a group of experts in the radiological protection field. They carry no legal force requiring or demanding adoption. Foreign remittances must be in U. S. exchange and should include an additional one-fourth of the publication price to cover mailing costs.

Air Pollution Control

Design and construction of air pollution control equipment now has reached the status of "big business," according to Harry M. Pier, Executive Secretary of the Air Pollution Control Association which held its 52nd annual convention and technical conference in Los Angeles. More than $250 million a year is spent by industry for the construction and operation of air pollution control equipment in the nation, Pier said. In larger urban areas such as Los Angeles, New York and Pittsburgh, it is now standard practice to include

air pollution control devices in the plans of all new industrial plants.

Some manner of air pollution control regulations have been adopted by over 2,000 communities and by more than 20 states in this country, Pier pointed out, while in many other areas such legislation is being considered.

Control devices range from simple dust collectors to elaborate devices costing as much as a million dollars each. All have the same basic purpose—to prevent the entry of contaminants into the limited air space in which we live.

Health Students Study Industry

Ten physicians and engineers representing seven countries were the guests recently of the American Cyanamid Company plant in Bridgeville, Pa., for a day-long inspection of safety equipment and study of measures taken to protect employee health.

Presently students at the University of Pittsburgh Graduate School of Health, the ten men are from Israel, China, Bolivia, Colombia, Brazil, Argentina and the United States. Their sponsoring organizations include the United States Public Health Service-International Cooperation Administration, World Health Organization and the Atomic Energy Commission.

Headed by Dr. William H. Hill of the university and guided by plant members, the group viewed production equipment with its accompanying safety features,

Use of protective masks and other equipment specified and worn by employees in various plant areas is demonstrated by safety and fire equipment serviceman, Jacob Drodney (center) to recent visitors to the Bridgeville, Pa., plant, American Cyanamid Company. The visitors, representing seven countries, toured the plant for a detailed inspection of safety equipment and measures taken to protect health.

hospital and health facilities, and administration offices. The afternoon session was given over to a series of talks by plant executives and representatives of the company's department of environmental health.

Plant manager, H. A. Van Brocklin told the students that the chemical industry now designs and builds control devices in the original blueprint for new installations. Further, he added, the company's approach to industrial hygiene begins the day its research laboratories have worked out the manufacturing process.

The plant manufactures coating resins, phthalic anhydride, catalysts and other products for the chemical and plastics industries.

Your insides feel like a
SAND STORM
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YOU NEED A
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AUTOMATIC
Water-Cooled Respirator
Sponge filter saturated in cool, clear water provides moist air for comfortable breathing. Ideal protection against dust, fumes, smoke, paint spray. Full panorama visibility. Can be worn with goggles or glasses. Work refreshed, order a water-conditioned respirator today! Sample, $2.25 postpaid.
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(For details, use Key # H-9 on card on page 1)

Sanitation Show

Many of the nation's top industrial firms are represented on the speakers' roster for the Fourth Annual Industrial and Building Sanitation-Maintenance Show and Conference scheduled for New York City, September 22–24. Sponsored by the Institute of Sanitation Management, the site of the Show and Conference will be the New York Trade Show Building and the New Yorker Hotel.

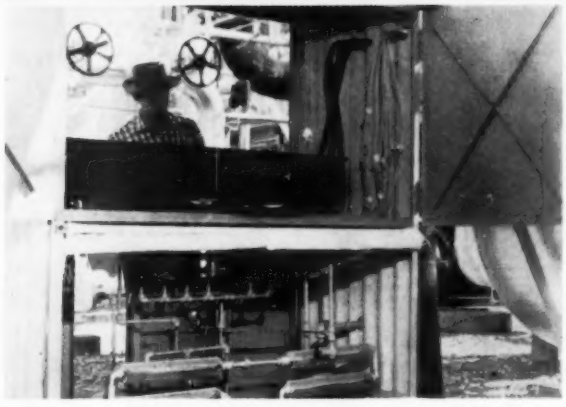
The Institute's program committee has provided a varied schedule of general meetings, joint divisional meetings for those in similar industrial and institutional operations, and separate division sessions for those in specific industries. The divisions are food processing, mill and bakery, industrial building, consulting and institutions.

Last year's Show and Conference drew 3,500 visitors from all over the country. Having scheduled a first-rate program with top flight speakers, the Institute expects the attendance to more than double this year. In addition to the Conference, all of the latest equipment and new products in sanitation maintenance will be on exhibit at the Sanitation Show. Visiting the exhibits and attending the Conference will be building superintendents, maintenance supervisors, sanitation directors, plant engineers, purchasing agents and executive housekeepers.

Analyzer Checks Gas Purity

The analyzer actuates this continous chart recorder, giving a permanent record of monitoring determination.

The corrugated steel shelter that protects the analysis equipment opens readily for ease of maintenance.



This view shows a sampling manifold arrangement in instrument shed. Tubing, upper r., conveys the samples.

Instant diagnosis of operating difficulties and rapid adjustment during plant startup are made possible by infrared analysis at the Mississippi Chemical Corporation's Yazoo City, Mississippi, plant. The instrumentation checks on gas purification operations in the ammonia synthesis-gas preparation facility by monitoring the carbon monoxide, carbon dioxide and methane content of hydrogen-nitrogen make-up streams.

The infrared analyzer is a non-dispersive type infrared absorption comparison instrument. Two similar Nichrome filaments are the separate radiation sources for the "test" and "reference" beams. A motorized reciprocating shutter, or "beam-chopper," alternately interrupts these in such a way that superimposing the two "blinking" beams would result in a single steady beam.

The stream sample flows through a stainless steel cell in the optical path of the "test" beam; a comparison cell in the other beam path contains a pure comparison gas, usually nitrogen.

After passing through the sample and comparison cell, the two beams unite in a beam combiner which focuses on a pneumatic microphone-condenser. The result is an electrical signal of amplitude proportional to the difference in infrared absorption between the test sample and the reference standard. This signal, on amplification, actuates a recorder calibrated to read directly the following ranges:

Component	Range
Carbon Monoxide–Carbon Dioxide	0–100 ppm
Carbon Dioxide	0–2%
	0–33 ppm
	0–100 ppm
Carbon Monoxide	0–2%
	0–100 ppm
Methane	0–2%

In the setup at Mississippi Chemical, a sampling manifold arrangement allows any one of six separate gas streams to be checked for impurity content. Normal practice is to record continously the methane concentration in two of six streams alternating from one stream to the other every four hours. When desired, the other impurities can be determined by the

(Continued on page 47)

Are Torching Fumes Toxic?

While torching in itself does not produce harmful fumes, the intense heat applied to metals containing or coated with certain substances can produce fumes which are serious health hazards and may even cause death, warns the Institute of Scrap Iron & Steel, Inc. The metals causing the greatest hazards are cadmium, mercury, and lead. The extent of the hazard of the fumes from these metals may be judged by a comparison of the permissible milligrams per cubic meter of air:

Toxic Metal Fumes		Common Gases	
Cadmium	0.1	Hydrogen Cyanide	22.0
Mercury	0.1	Hydrochloric Acid	15.0
Lead	0.15	Phosgene	4.0

Compare the much greater amount of the commonly known gases which is permitted than for the fumes of the three metals.

Where They Are Found

CADMIUM is used as a plating material on marine hardware and other fittings for its corrosion resisting properties. It is a poison with properties analogous to arsenic and mercury. The inhalation of cadmium fumes can cause acute or chronic poisoning, or death. The effects in the acute form are lung damage, possible damage to the kidneys and bones, as well as blood changes.

The symptons of cadmium poisoning are:

Acute—Collapse, soreness of chest, shortness of breath, vomiting.

Chronic—Weakness, nausea, vomiting, loss of appetite.

One outstanding symptom is the yellow ring which forms around the gums at the tooth line.

MERCURY compounds are used in special nonfouling paints for ship bottoms. Mercury gives off fumes even at normal temperatures.

The symptoms of mercury poisoning are:

Chronic—Increased flow of saliva, swelling and inflammation of the gums, irritability, tremors, blackening of teeth.

LEAD is used as a base material for many types of paints and as an alloy. Lead poisoning is usually a chronic disease. Chronic lead poisoning can cause disability of considerable length, prolonged exposure leading to palsy, permanent disabilities, or even death.

The symptons of lead poisoning are:

Chronic—Loss of appetite, weakness, pallor, abdominal cramps, colic, pains in muscles, irritability.

OTHER METALS which give off hazardous fumes when subjected to heat of torching are zinc, copper, and tin which can produce "metal fume fever." This disease causes pains in the muscles, headache, nausea, and mild shivering. The chill increases as with a high fever.

TANK CARS, storage tanks, pipe lines, and other containers may contain residues or sludges of chemicals or other substances which could give off a wide variety of toxic fumes when exposed to the flame and heat of torching.

Protective Measures

To protect employees against hazards of fumes from these materials, sufficient ventilation should be provided to keep the concentration of fumes below the

permitted limits. In some cases, where the torching is done outdoors and there is sufficient air movement **away** from the breathing area of the worker, no further measures are necessary. It may be necessary to provide a fan to create the needed air movement. In confined areas, a local exhaust ventilation unit with a 4-inch flexible metal hose placed near the source of the fumes and moving approximately 250 cfm probably will be sufficient. The exhaust should be so placed as to not contaminate other areas or other employees.

If it is not possible or practical to control the fumes at the source, employees should be provided with air-line respirators. These may be either the supplied-air type, or if the distance to fresh air is 25 feet or less, the hose type. For light fume concentrations, a respirator equipped with a metal-fume cartridge may suffice. If there is a question as to the extent of concentration, ask the local Department of Public Health to make a determination.

Picture by Three Lions.

Analyzer Checks Gas Purity

(from page 45)

same type of instrumentation with minor internal modifications.

Since its installation in the Fall of 1955, the Lira analyzer has proved its value. J. R. Phillips, assistant general operations manager, reported: "We are very well satisfied with the performance of this instrument, our only regret being that we did not purchase it sooner. It permits operating personnel to rapidly diagnose operating difficulties, and is of great help in plant startup operations."

Pictures by courtesy of Mine Safety Appliances Co.

Hearing Test Booklet

A newly revised booklet on industrial hearing conservation has been published by Employers Mutuals of Wausau. The booklet, "Guide for Industrial Audiometric Technicians," was first printed in 1954. According to Roger B. Maas, Ed. D., Employers Mutuals Hearing Consultant, the revised edition contains a large amount of new information compiled from the firm's wide experience in working with hundreds of policyholders' audiometric technicians, as well as audiologists, otologists and audiometer manufacturers. Major changes include a new glossary, updating of techniques, use of equipment and theory.

When published originally, the booklet was the first of three booklets on the subject of industrial hearing conservation produced by the insurance firm. Although published primarily for Employers Mutuals policyholders, single copies of the revised booklet are available free to those requesting it on their business letterhead. Address: Publications Editor, Accident Prevention Department, Employers Mutuals of Wausau, Wausau, Wisconsin.

11-8

Safe Operation
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Overhead Valves
with a
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SPROCKET RIM
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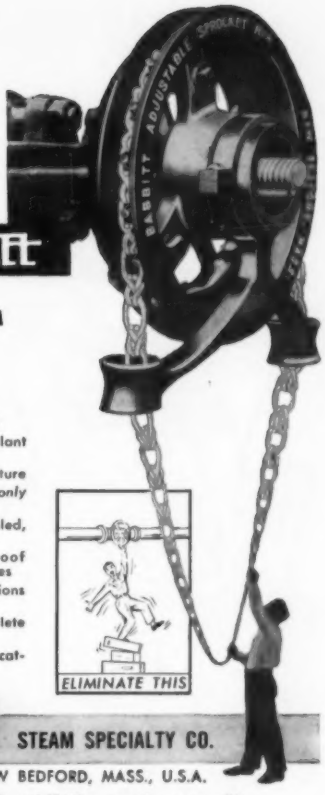

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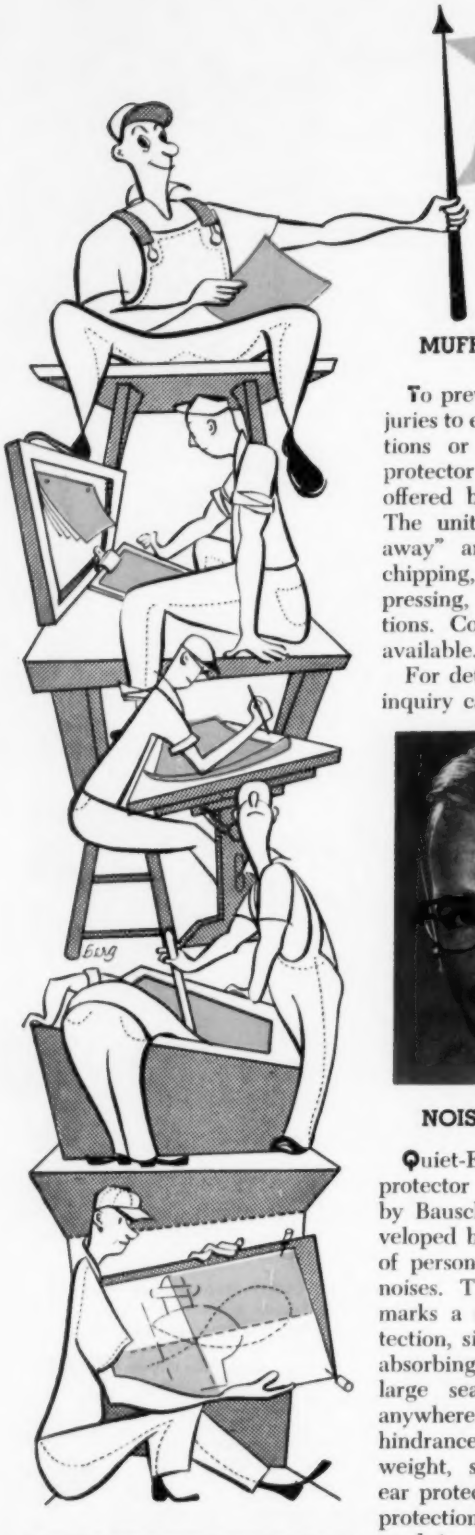


NOISE CONTROL SERIES
other articles June & July

MUFF TYPE PROTECTORS

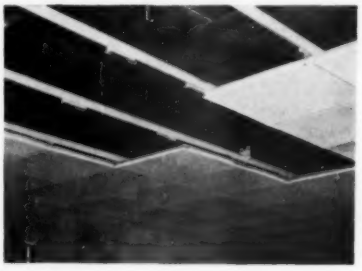
To prevent expensive hearing injuries to employees in noisy occupations or areas, an earmuff type protector with head band is being offered by David Clark Co., Inc. The unit is called the "Straightaway" and is recommended for chipping, riveting, forging, punch pressing, and similar noisy locations. Communication models also available.

For details, use **Key # NC- 1** on inquiry card on page 1.

NOISE EAR PROTECTOR

Quiet-Ear, a unique new ear protector distributed exclusively by Bausch & Lomb, has been developed by RCA to meet the need of personnel who work near loud noises. The design of "Quiet-Ear" marks a new concept in ear protection, since it uses neither bulky absorbing materials, nor excessively large sealing shells. Applicable anywhere, where noise becomes a hindrance or a nuisance, this lightweight, sanitary and inexpensive ear protector offers optimum noise protection. It can be effectively used in a wide variety of operations: jet airfields and carrier flight decks, diesel engine generator houses, bio-acoustic testing laboratories, artillery or missile launching sites, steel rolling mills, punch press machinery, rock drilling, riveting and many others.

For details, use **Key # NC-2** on inquiry card on page 1.



FIRE-GUARD ACOUSTICAL TILE

Armstrong Acoustical Fire-Guard, a new acoustical tile ceiling system, has been granted a four-hour fire resistance rating in tests by Underwriters' Laboratories, Inc. Initially, it achieved a two-hour fire retardant rating when tested in combination with steel bar joist and a 2″ concrete floor. Later tests have shown that the new ceiling, when combined with a cellular steel deck and 2½″ concrete floor assembly, provides four-hour protection against the passage of flame and dangerous transmission of heat up through the assembly in the event of fire; and that they protect the structural I beams in the assembly to permit them to carry their prescribed loads for more than five hours in a fire.

Acoustical Fire-Guard is installed by a completely "dry" method, and requires no intermediate fire-stop above the finished acoustical ceiling. The tile is made of a densely packed mineral fiber and has a special tongue, groove and kerfed edge detail that permits interlocking of the tiles. Each tile rests on a clip spline which has been snapped into a steel runner. Be-

NOISE CONTROL DEVELOPMENTS

cause of its special density and composition, the tile minimizes room to room sound transmission through the suspended ceiling. It is particularly suitable for commercial or institutional interiors where movable, ceiling height partitions are employed. With a noise reduction coefficient of .70, it is available in three attractive surface designs.

For details, use **Key # NC-3** on inquiry card on page 1.

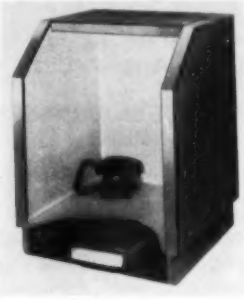
SNORT VALVE SILENCER

The age-old problem of silencing the tremendous noise created by snort valves on blast furnaces in steel plants is believed to be solved by a new installation at Kaiser Steel Corporation, Fontana, Calif. The noise control device, appropriately called a "Snort Valve Silencer," was designed and fabricated by the Sound Control Department of Koppers Company, Inc. It weighs approximately 8,000 pounds and is 24 feet long by 6 feet wide.

Encased in a steel shell, the sound absorber column employs the Soundstream principle. The column is filled with spun metallic wool held in place by a face sheet of glass fiber which in turn is covered by a perforated galvanized sheet face plate. The entire assembly is suspended from the outlet flange of the snort valve and can be used at temperatures over 500°F.

In the case of Kaiser Steel's operation, the Snort Valve Silencer dramatically reduced the noise to acceptable levels. After a thorough evaluation of the results of the test project, the company has installed two additional silencers for other blast furnaces.

For details, use **Key # NC-4** on inquiry card on page 1.



ACOUSTICAL PHONE BOOTH

A new acoustical booth which provides quiet, accuracy, and privacy of communications in even the noisiest locations in now available from The Korfund Company, Inc. For use in factories, offices, public places, and institutions, the "Hush-A-Booth" blocks and absorbs extraneous noises. Its interior seals in conversation and blocks out noise. The booth can be used as a housing for telephone or intercom equipment. It also provides a quiet area for data-taking and other work requiring utmost concentration or privacy.

Features of the booth include: (1) open construction—no doors to stick, no glass to break, no confined space to collect odors or dirt; (2) accommodates any type telephone or intercom system equipment; (3) durable and rugged construction; (4) body-contour writing shelf; (5) suitable for wall, column, or desk mounting. It is made of heavy plywood and perforated sheet metal for highest efficiency; uses 2″ thick Fiberglas as acoustical medium.

For details, use **Key # NC-5** on inquiry card on page 1.

NEW EAR PROTECTORS

Rye Sound Corp. announces availability of an ear protection device with industrial applications in fields where excessive noise causes excessive fatigue and tension. Designated Model K-7249, the device is sold in pairs and is designed to fit users ears in such a manner as to reduce noise level approximately 30 decibels. The hearing protector is made of washable, flexible plastic. A specially designed flange assures comfort as well as a snug fit. A small tab facilitates insertion and removal. Available in two sizes: medium and large. Pairs supplied in bakelite carrying case.

For details, use **Key # NC-6** on inquiry card on page 1.

PORTABLE ACOUSTICAL UNIT

A portable acoustical product developed by United States Gypsum Company is helping to break the noise barrier in factories and industrial shops. Called "Acoustosorber" the unit is designed to hang from the ceiling in areas where noise is concentrated. Weighing only about 1 pound, the unit has

an outer sheet of embossed vinyl plastic backed with a 1½ inch thick glass-fiber blanket. Shipped in flat sheet form for easy handling, the unit is shaped at the job site along pre-embossed lines into a box-like pyramid. The stapling flange on each unit facilitates suspension from the ceiling on wires.

Recommended for use in noisy areas where built-in sound absorbers have not been or cannot be installed, Acoustosorbers are particularly valuable in locations wherever the source of noise cannot be modified or isolated. Installation of the pyramidal sound absorbers in these areas can reduce apparent loudness levels up to 50 percent.

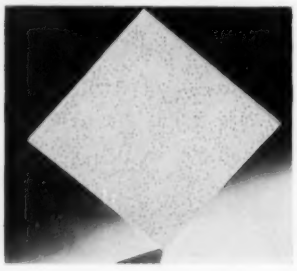
Extensive field tests show that the unit: reduces the disturbing noise in areas adjacent to the "Cone of Little Noise Relief"; clips the peak noise impulses; absorbs reflected sound waves; lowers the reverberation time in the sound-conditioned area; makes noise directional and identifiable, eliminating workers' feeling that they are engulfed in a sea of sound; makes speech communication possible; makes the work area more comfortable; improves safety records.

Possessing an unusually flat absorption curve and an exceptionally high absorption in the low frequencies, the new pyramidal unit is equivalent to approximately 16 square feet of ordinary built-in acoustical treatment. To obtain the most effective results, one unit is recommended for every 12 to 16 square feet of ceiling area. It can be located at a level as near the noise source as possible.

For details, use **Key # NC-7** on inquiry card on page 1.

ACOUSTICAL TILE

Armstrong Cork Company has added an unusual lace-like tile pattern to its line of Minatone incombustible ceiling products. Called "Classic Minatone," the newly designed acoustical material contains hundreds of tiny perforations scattered over the face of the tile. In an installed ceiling, the pattern produces an over-all free-flowing effect. The tile's attractive styling, high sound-absorbent efficiency, and incombustibility makes it particularly suitable ceiling material for modern institutional and commercial buildings. Its washable white latex finish reflects light evenly, without annoying glare. The material can be mechanically suspended or cemented to plaster, concrete or gypsum base.



For details, use **Key # NC-8** on inquiry card on page 1.

IMPROVED SOUND-LEVEL METER

The primary function of the General Radio "Sound-Level Meter" is noise measurement—noise generated by machines and appliances, environmental noise, and the propagation of noise by materials and structures. With its many accessories, however, it also comprises a complete sound-measuring system, capable of accurate sound-pressure measurements, sound-spectrum analysis, and other acoustic measurements.

The latest model of this versatile instrument, TYPE 1551-B is smaller, lighter, and easier to hold than its predecessor and has many worthwhile new technical features and improvements. Among these are: 1. A new microphone, for better all-round performance; 2. A new meter circuit, which more closely approximates rms response; 3. A new calibration circuit for amplifier gain standardization, which does not require a power line connection; 4. A new adjustment for microphone sensitivity, which facilitates the use of special-purpose microphones; 5. Improved signal-to-noise ratio and dynamic range; 6. Improved frequency response, which permits increased accuracy of measurement; 7. Improved performance at high sound levels; 8. Improved stability, requiring less frequent calibration adjustments.

For details, use **Key # NC-9** on inquiry card on page 1.

NEW SOUND ROOM

Maico hearing aid dealers are now offering the new "250" acousti-room, an audiometric enclosure for industrial and clinical hearing tests, according to Maico Electronics, Inc. Built of special acoustic panels 2½ inches thick, the new room features a patented "Noise-Lock" door.

The telephone-type jack panel includes four jacks for audiometer, earphones and signal light connection. Optional equipment on a new unit includes a forced air ventilator, a 12" folding shelf for either inside or outside mounting, extra windows in wall and door, a 24-inch desk, and an intercom system. The entire room can be moved by fork truck.

For details, use **Key # NC-10** on inquiry card on page 1.

IMPROVED EAR VALVE

A new improved Silicone rubber ear-insert is now available for the Lee Sonic "Ear-Valv" according to Sigma Engineering Co. This hearing protector acts, in effect, as a protective eardrum, by removing the harm from loud volume noise while allowing the ear canal to remain open to permit normal air circulation and the hearing of ordinary voice level sounds.

The ear-insert's Silicone rubber, developed by Dow-Corning, en-

dures extremes of heat and cold, is longer lasting, non-toxic, non-allergenic, resistant to skin oils and ear-wax, soft and comfortable to wear in the ears. According to the manufacturers, the Ear-Valv is not an earplug, but a tiny mechanical device, containing a number of precisioned parts which function as a dissipator of the harmful element in noise before it can damage the eardrum. It is fully automatic in operation, requiring no adjustments or servicing.

For details, use **Key # NC-11** on inquiry card on page 1.

IMPROVED EARPHONE

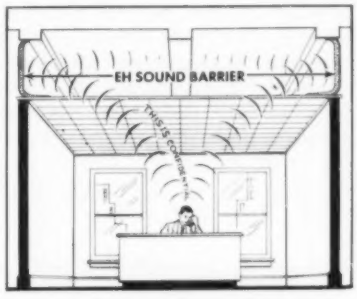
Willson Products has announced an improved type of earphone particularly useful in noisy industrial applications and in flight communication systems. The Willson No. 260 "Sound Barrier" consists of a speaker boom and earphones built into ear-muff type hearing protectors, the entire unit fitting on the head to allow freedom of both hands. In addition, noises are deadened, allowing quiet communication and more audible transmission.

For details, use **Key # NC-12** on inquiry card on page 1.

SOUND BARRIER

Elof Hansson, Inc., Acoustical Division, has introduced a new acoustical product which solves one of the major problems of acoustical ceilings. The "E H Sound Barrier" increases the sound insulation through suspended acoustical ceilings—over partitions between adjacent areas—to obtain "privacy of speech." Movable and masonry partitions usually extend only to the height of the suspended acoustical ceiling, resulting in lack of "privacy of speech" between adjacent rooms partitioned off in this fashion.

The Sound Barrier is installed from the underside of the concrete arch or floor above, down to the top of the parition above the acoustical ceiling.



The barrier increases the sound transmission loss through the entire construction to 40 decibles (re: 0002 microbar) which is adequate for privacy of speech. It consists of a flexible incombustible asbestos, aluminum and mineral wool unit. Standard length is 36″ and standard heights 24″, 36″ and 48″.

For details, use **Key # NC-13** on inquiry card on page 1.

TONE & SPEECH AUDIOMETER

The Otarion Model 1000 Audiometer is designed for making hearing tests with the use of pure tones and speech. The speech material may be from phonograph records or live speech through a microphone. Hearing tests may be made by air conduction or bone conduction. The test tone may be interrupted manually or automatically in pulses. A masking signal of adjustable intensity is provided, as is also a monitor phone for the operator's use.

Eight pure tone frequencies ranging from 250 to 8000 cycles per second are provided. The hearing loss range is available for air conduction hearing tests. A pair of earphones is furnished for binaural use. They are marked "Left" and "Right" and are to be so placed on the head of the subject. The operator can then select which ear is to be tested by the setting of the "Output" switch. An auxiliary earphone with headband is furnished for monitoring, so that the operator

may listen to the signal being presented to the subject.

A bone conduction receiver with a headband enables tests to be made of acuity by bone conduction. The model 1000 is available in a choice of two cabinets: Gray plastic-covered portable with matching cover containing a compartment for all accessories or a walnut cabinet with a small cover for the turntable compartment. Units weigh just under 30 lbs.

For details, use **Key # NC-14** on inquiry card on page 1.

NOISE SOURCE

The Model 3-MAN-8 Octave Band Equalizer and Noise Source can be used as a tailored random noise source in environmental testing in industry. Each band can be adjusted for level to simulate a given environmental noise spectrum. The unit is more than a filter set. It has a "white" noise generator and amplifiers as an integral part of the unit. The unit will supply signals for low frequency and high frequency power amplifiers. These amplifiers, through transducers, can produce high acoustical noise levels in test chambers. Made by Allison Laboratories, Inc., the unit as normally supplied consists of a white noise generator feeding a driver amplifier. This in turn feeds eight attenuators each of which is connected to an octave band filter. The output is divided into two sections of four bands each. The four bands of each section are mixed and fed into a line amplifier. The noise generator can be set for either constant energy per cycle or constant energy per octave. Provisions are also made for external signals other than the white noise generator.

For details, use **Key # NC-15** on inquiry card on page 1.

HEARING PROTECTOR SET

A joint development of RCA and Mine Safety Appliances Company is the new "Noisefoe Mark II" over-the-ear protector against excessive noise. The ear cup headset subdues shrill noises, is made of durable materials and is comfortable to wear. The ear caps, of plastic-cycolac, have a vinyl seal pouch between the cup and the side of the head. Two types of seals where the cup meets the head are available: a foam-filled pad, and a grease-filled pad, the latter providing slightly better attenuation in some frequencies. A vinyl headband fits over the two-pronged steel suspension. Adjusting nylon buttons maintain constant tension. All parts can be washed easily with soap and water.

For details, use **Key # NC-16** on inquiry card on page 1.

NOISE-ABSORBING PIPE SECTIONS

Vibration absorbing and noise deadening rubber pipe sections have been developed by Vibration Mountings, Inc. Completely flexible, durably reinforced and light in weight, these rubber pipe sections are called "Quiet-Flex." Used as connections for pumps, compressors, engines, processing and heating or ventilating equipment, the flexible sections dampen noise, vibration and pulsations carried by metal pipe; and compensate for misalignment and reduce strain on flanges by allowing for contraction and expansion. Suitable for handling the acids, salts, alkalies, suspended solids and abrasive materials that destroy metal pipe.

The rubber pipe has an inner tube of gum rubber or compounded, synthetic stock. This is covered by a flexible shell of woven duck and spiraled steel wire embedded in rubber with a tough, outer wrap to withstand working pressures up to 250 psi and operating temperatures up to 250° F.

For details, use **Key # NC-17** on inquiry card on page 1.

NEW NOISE CONTROLLERS

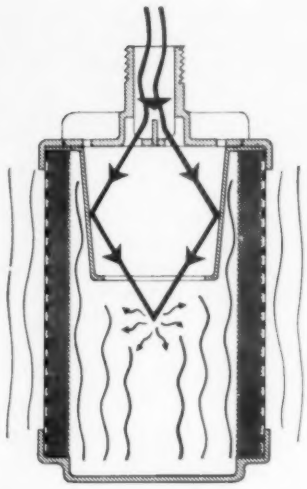
Over fifteen years of research, design, development and actual usage in industry precede the announcement of the "S-O-S® Noise Controller." As the name S-O-S® (shut out shock) implies, these devices enable the user to hear normal conversations. They help eliminate fatigue, etc. so often brought about by unwanted and shock noises.

"S-O-S Noise Controllers" do not enter the ear canal where the insertion of foreign objects frequently causes irritation and possible infection. They are sanitary and being made of polystyrene, are easily cleansed with soap and water. They are comfortable to use. A quick twist inserts or removes them. Units are offered in three sizes from M-M-A, Inc.

For details, use **Key # NC-18** on inquiry card on page 1.

IMPROVED AIR NOISE SILENCER

The 1959 model "Atomuffler" (pneumatic muffler), features an improved, internal resonator to silence the irritating noises resulting from air-operation. This new unit is made by Allied Witan Co. Engineered to utilize the scientific principle of cancelling equal and opposite forces, the air-operated machine's exhaust port breaks up the air jet. The resulting, scattered waves are parabolically reflected into many, opposing, high-velocity forces. Collision of these focused forces cancels the rushing air before it becomes ear-splitting noise. A radical disseminator then permits the lowered-velocity, exhaust air to quietly drift into the atmosphere. This cancellation principle enables the muffler to diffuse escaping air at a ratio of 60 to 1.



For details, use **Key # NC-19** on inquiry card on page 1.

POCKET-SIZE NOISE METER

A palm-sized noise survey meter to monitor and measure noise hazards has been developed by engineers of Mine Safety Appliances Company. Weighing only 12 ounces and not much larger than an electric shaver, the instrument is housed in plastic with a leather, zippered carrying case and neck

cord. The M-S-A Noise Survey Meter is designed for rapid, multi-location measurement of sound levels to establish noise-contour "maps" in large industrial plants. It is an especially convenient tool for acoustical design specialists.

Complete noise analysis can be achieved when the meter is used with the M-S-A Soundscope, a precision instrument to measure the energy distribution of sound within a narrow frequency band. The meter can be used either ahead of the Soundscope, to locate areas requiring detailed study; or behind the Soundscope, to monitor noise levels in areas where frequency characteristics already have been determined.

In making sound measurements, the Survey Meter is pointed toward the noise source, energized by power from a small mercury battery. Sound pressure levels can be read quickly in the range of 75 to 140 decibels. This range covers roughly the noise levels produced by busy street corner traffic up to the pain-producing pressures of noise in the test cell of an aircraft engine plant. Two models will be offered. The first, called the Industrial Hygiene Model, has been designed with frequency response characteristics based on hearing damage criteria. The second is intended for use in noise reduction studies and acoustical engineering surveys, and has a "flat" response.

For details, use **Key # NC-20** on inquiry card on page 1.

SILENCERS AND SNUBBERS

In planning the Ducommun Street Compressor Station in Los Angeles, the Southern California Gas Co. was faced with the problem of reducing the noise of the eight compressors to a minimum. The Burgess-Manning Company solved the problem by installing Special Air Intake Cleaner-Silencers and Special Side Inlet Exhaust Snubbers on each of the gas engine driven compressors. The Burgess-Manning silencers and snubbers were both designed for vertical installation and as they are approximately the same size they appear to be a "matched set." In addition, to eliminate gas discharge pulsation, Pulsation Snubbers were recommended for installation in the second stage discharge lines.

For details, use **Key # NC-21** on inquiry card on page 1.

HEAD-SET EAR PROTECTOR

M. C. Rosenblatt has developed and recently perfected a new head-set ear protection unit which provides safety and comfort from extreme noises up to the "pain threshold" such as are encountered near revved up jet engines on test or repair blocks.

Known as "Silents, db 75" this set is said to provide excellent noise attenuation and to respond to all frequencies of the noise spectrum encountered. It provides hearing protection, is comfortable to wear and does not interfere with eye glasses or with work at close quarters. The set features minimum bulk and is adjustable to any head size. It is long lasting, rugged and all parts are economically replaceable.

For details, use **Key # NC-22** on inquiry card on page 1.

HEARING AID POWERED BY SUNLIGHT

The sun's free energy is available for the benefit of the nation's hard of hearing. The Zenith Radio Corp. announced an eyeglass hearing aid, the "Solaris," that operates on free power from ordinary sunlight. Company engineers say that the amount of sunlight received on a slightly overcast day is enough to operate the unit efficiently without using a battery. When light is insufficient, the battery automatically cuts in to operate the hearing aid. A tiny nickel cadmium storage battery, that weighs only a fraction of an ounce and is capable of many recharges, may be used in the instrument. Bright sunlight will operate the hearing aid and recharge the battery. The instrument is equipped with four tiny silicon sun powered cells which convert the sun's rays directly to useful energy.

For details, use **Key # NC-23** on inquiry card on page 1.

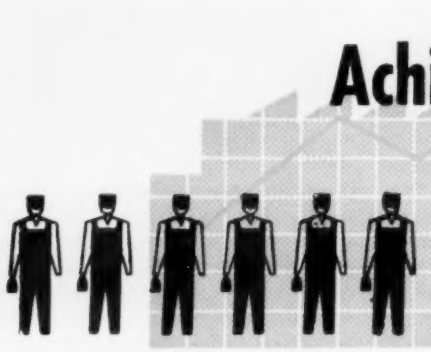
President's Safety Conference Head

Secretary of Labor James P. Mitchell announced the appointment of Reed Oliver Hunt, Executive Vice President, Crown Zellerbach Corporation, San Francisco, as Executive Director of the President's Conference on Occupational Safety. The next meeting of the Conference will be held early in 1960. It will bring together a broad cross-section of leaders of American industry, labor, government, insurance, education, professional organizations and private safety groups to recommend voluntary methods of reducing work injuries.

In naming Mr. Hunt, the Secretary noted that, despite improvement, on-the-job accidents last year took the lives of 13,300 workers and injured an additional 1,796,700, many of them seriously.

The Crown Zellerbach Corporation is well known for its advanced safety work. The corporation has been active in a joint labor-management program, now in its 14th year, which has cut injuries to West Coast paper and pulp workers by 87 percent.

As Conference Executive Director, Mr. Hunt will head an advisory group representative of major segments of the economy concerned with reducing accidents.



Achievements and Awards

Governor Robert Meyner of New Jersey presented Mack Trucks, Inc., with a special safety award, citing the company for its "outstanding contribution to highway safety." For the past three years, Mack, in cooperation with the American Trucking Association's Foundation, has been sponsoring a summer-long highway safety and trucking education series on Monitor, the NBC network weekend radio program. The series, which will be continued again this summer, has also earned Mack the 1958 Public Interest Award of the National Safety Council, which is given annually for exceptional service to safety.

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The Hornell plant of SKF Industries, Inc., was cited by the National Safety Council for completing over 150,000 man-hours of work without a disabling injury. The award was based on Hornell's 155,722 hours of safe work from December, 1957 to December, 1958.

• • •

Employees at the Aliquippa Works of Jones & Laughlin Steel Corporation received the National Safety Council's Award of Honor, for safety record of more than three million man-hours without a disabling injury. The award is in recognition of the all-time safety record compiled by the more than 14,000 employees, who worked a total of 44 consecutive days, or 3,107,755 accident-free man-hours from December 1, 1958 through January 13, 1959.

The previous J&L record was held by employees at the Cleveland Works, who worked 116 days or 2,476,262 man-hours, without a disabling accident case. The former Aliquippa Works record was established on March 4, 1932, following an accident-free period of 67 days, or 2,181,611 man-hours.

Aliquippa Works employees surpassed the million man-hour mark on two other occasions during 1958, and, since January 13 of 1959, two additional records of more than 1,000,000 man-hours without a disabling injury have been established.

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For two consecutive years The Faultless Rubber Company, Ashland, Ohio has won the "Award of Merit" for outstanding performance and achievement in the field of industrial safety.

• • •

Certificates of Achievement have been awarded to 430 chemical plants which operated throughout 1958 without a single disabling injury by the Manufacturing Chemists' Association. A total of 44 MCA member firms are represented on the list.

To qualify for MCA's Certificate of Achievement, in addition to its injury free record, a plant or laboratory must be a self-contained unit of its parent company, must have worked a minimum of 20,000 man-hours and must be engaged in chemical manufacturing operations or research.

Of the 430 certificates, 32 were earned by plants working in excess of one million man-hours during the year and a further 38 by plants working between 500,000 and one million man-hours.

The chemical industry is one of the safest in the country. According to the latest safety figures the chemical industry 1958 average was 2.98 injuries per million man-hours, below the average for all industry. Last year was a record safe year for the chemical industry.

The National Safety Council recently announced that the Cleveland plant of the Archer-Daniels-Midland Company, received the Council Certificate of Commendation for its excellent safety record. ADM qualified for the award because of its 427,424 disabling injury-free man-hours during the period from April 11, 1956 to December 31, 1958.

• • •

Four awards for fire prevention, including a first place in international competition, were presented the General Services Administration by the National Fire Protection Association.

The top award in the association's government division went to GSA's Region 3, based in Washington. Region 2, headquartered in New York City, won third place; Region 1, Boston, Mass., eleventh place, and Region 7, Dallas, Tex., fifteenth.

Responsible for the care and maintenance of most Federal buildings in the Washington area, Region 3 achieved a record low per capita fire loss (dollar losses per employee) of 65 cents in GSA-operated properties compared to $1.54 for all government and a national average of $6.13.

• • •

Dravo Corporation has awarded its highest safety honor—the President's Award—for 1958 to employees of the Sheet Metal Shop at Neville Island shipyard. Employees there amassed 1,007,149 disabling injury-free man-hours since October 28, 1953.

Top safety performances among Dravo Divisions and subsidiaries were recognized with bronze plaques, as follows: Contracting Division—354,498 safe hours since March 15, 1946; Keystone Division, Bentleyville Plant—178,017; a 24-year record—1935 through 1959; Machinery Division—263,880 safe

hours since October 11, 1954; Union Barge Line, Towboat "Western"—191,611 safe hours since July 24, 1956.

• • •

The Navy's General Stores Supply Office at Philadelphia, with over 600 military and civilian personnel, has become the first naval activity to achieve a safety record of over 10 million working hours without a disabling injury. Describing the accomplishment as "unparalleled in the Navy," RADM J. W. Boundy, SC, USN, Chief of the Bureau of Supplies and Accounts, gave official recognition to the safety achievement with the presentation of an "Award of Merit" to GSSO on March 19. Capt. J. W. Bottoms, SC, USN, Commanding Officer of GSSO, accepted the award on behalf of the personnel. The safety record attained by GSSO covers the period from December 26, 1950, to December 31, 1958. In this 8-year span the installation has accumulated 10,113,360 accident-free hours of operation.

• • •

Miles Laboratories, Inc., Elkhart (Ind.), manufacturer of pharmaceuticals and drugs, received an award for its record of one million man-hours' plant operation without a disabling injury. A plaque was presented by American Motorists Insurance Company, a division of the Kemper Insurance group. The 1200 employees in the company's Elkhart plant began their accident-free record on July 15, 1958. The award covers a six-month period through January 20, 1959.

• • •

The nation's gas utility and pipeline companies completed 1958 with one of the best safety records in the industry's history, according to the American Gas Association. A.G.A. notes that 1958 was the 11th consecutive year in which the accident frequency rate has been improved. An all-time low of 8.07 disabling injuries per million man-hours was recorded, compared with the post-war peak of 21.86 in 1947 and the best previous rate of 8.08 set in 1957.

While the industry's accident frequency rate improved, pipeline and utility companies reported an increase in accident severity. The severity rate was 683 last year, up from an all-time low of 462 in 1957. The peak year for severity was 1947 when the rate was 1,277, almost double the 1958 rate.

The gas trade association's report is based on returns from 516 U. S. companies representing 95 percent of the industry's estimated 204,000 employees.

• • •

Employees of Rockwell Manufacturing Company's Uniontown Plant have been awarded American Mutual Liability Insurance Company's "large certificate" safety plaque for the second time. The plaque is presented to any plant which turns in a record of 250,000 consecutive man-hours and 12 consecutive months without a disabling accident. The plant compiled a record of 1,000,000 man-hours and three years without a disabling injury. The plant, which manufactures water meters, gas and oil meters, and industrial meters, first received the award in 1956. Uniontown has had only two lost-time accidents since it went into operation five years ago.

• • •

Employees of the Buffalo (N.Y.) stamping plant, Ford Motor Company, set a new world safety record for the stamped and formed sheet metal product industry by working nearly a year and a half without a disabling injury. Starting on October 16, 1957, Buffalo employees worked 10,709,877 man-hours without a lost-time injury until March 28, 1959. In setting world and Ford safety marks, Buffalo employees broke the company record they established in 1956, when they worked more than nine million man-hours without a disabling injury.

The world safety record is the fifth established by Ford facilities since 1955. Other world safety records by Ford plants have been set in their categories by the Dearborn

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(Use Key # H-12 on Inquiry Card on page 1)

(Mich.) glass plant, Dearborn specialty foundry, Chicago Aircraft Engine Division, and the General Offices of Ford International Division. Last year, Ford employees established a record low company injury rate, with only 1.32 disabling injuries for every one million manhours worked. The figure represents a 70 percent safety improvement over the last 10 years. In 1958, Ford locations throughout the United States received 116 awards from the National Safety Council in recognition of their safety performances.

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The Sparky Award—the "Oscar" of fire prevention—has been presented to Chief Henry G. Thomas of the Hartford (Conn.) Fire Department for his outstanding contributions to the fire service. Percy Bugbee, general manager of the National Fire Protection Association, made the presentation at a testimonial dinner in Hartford honoring Chief Thomas on the occasion of his retirement from the fire department.

Chief Thomas is one of only three recipients of the international award since the National Fire Protection Association created the well-known fire dog symbol in 1951. The chief has just completed 41 years of service in the Hartford Fire Department, 13 of them as chief. During his career, Chief Thomas has headed the International Association of Fire Chiefs and currently is serving as president of the National Fire Protection Association.

• • •

Scott Paper Company's annual safety banquet was held this year in Wisconsin in recognition of the outstanding safety records of its mills in this state. Personnel of these subsidiary plants, Falls Paper & Power Co., Oconto Falls and Marinette Paper Co., Marinette, accumulated a total of 6,412,500 manhours without a disabling injury. Sharing the honors was the company's Madison, Maine, plant which completed the year 1958 without a disabling injury.

Other Scott mills at Chester, Pa.; Everett, Wash.; Fort Edward, N. Y., and Mobile, Ala., were also singled out for their outstanding 1958 safety records. Through the efforts of employees in these plants, safety records showed either a 50 percent or better reduction in frequency of lost-timers over the previous year or a record that was superior to the company's over-all average.

Major awards presented at the banquet included the following: the Oconto Falls and Mobile plants received the American Pulp & Paper Association's regional awards for the Lake States and Southern States regions respectively, while the Madison, Marinette and Oconto Falls plants received the Association's Zero Frequency Award of Merit. In addition, the Chester plant received the National Safety Council's Pulp & Paper Industry Contest Group A Award for their achievement of a .56 frequency during 1958.

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The Air Force received the Monsanto Aviation Safety Award for 1958, presented by the Aviation Writers Association, for having achieved a record 20.7 percent reduction in its major accident rate last year to an all-time low of 10.4 accidents per 100,000 hours flown. Maj. Gen. Joseph D. Caldara, director of flight safety research for the Air Force, was cited for "Dynamic Leadership" and for having made the year's "most significant and lasting contribution to aircraft operating safety." Monsanto Chemical Company established the annual award in 1957 to "acknowledge and encourage progress in aviation safety."

• • •

The National Lime Association has presented, for the first time, special 3000 day and 2000 day Legion of Safety certificates. The 3000 day award went to the Springfield, Mo. plant of Ash Grove Lime & Portland Cement Co., and the 2000 day awards to the New Braunfels, Tex. plant of U. S. Gypsum Co. and to the Ludington, Mich. plant of Dow Chemical Co. As of March 31, the Ash Grove plant had gone 3336 days without a lost-time injury—the all-time record for the lime industry; and the Dow plant 2225 days. The U. S. Gypsum plant amassed 2193 days before its string was broken last December.

The National Lime Association also awards 1000 day safety certificates to eligible lime plants enrolled in Bureau of Mines Lime Plant Safety Competition. Presently, 19 plants are members of the 1000-day club.

• • •

The National Safety Council's highest commendation, the "Award of Honor," was presented to Brigadier General E. J. Hopkins, Commander of the Air Force Accounting and Finance Center, Denver for an accident-free ground safety record in 1958. There were no disabling accidents among the 3500 civilian or military personnel while on duty. Military personnel are considered on duty 24 hours a day under the rules.

• • •

The contracting firm of Rothschild, Raffin & Weirick of San Francisco has been presented with an award for its outstanding safety record achieved in the renovation of the old Carquinez Bridge and construction of new freeway approaches to the bridge. The presentation was made by Industrial Indemnity Company, workmen's compensation carrier for the contracting firm, after the completion of this $1,100,000 14-month project without a disabling accident.

• • •

Construction forces of Stone & Webster Engineering Corp. working on the Yorktown Power Station for Virginia Power & Light Co., have been awarded the William N. Patten Trophy for their 1958 safety record. The trophy is awarded annually to construction forces on the Stone & Webster project achieving the best record in terms of reducing frequency of accidents and amount of time lost. At the Yorktown project, the frequency rate was 4.0. The general frequency rate for all Stone & Webster projects in 1958 for disabling accidents was 17.38.

Construction forces working on the Bremo Bluff, Va., power station, also for the Virginia Electric Light & Power Co., were second among all Stone & Webster projects in the U. S. The Stone & Webster safety program was established in 1921, when safety programs, particularly in construction work, were generally unknown. Stone & Webster is believed to be among the first to recognize the responsibility of the employer in the matter of safety.

• • •

Phillips Control Corporation, Joliet, Ill., was presented a safety plaque by Employers Mutuals of Wausau for exceptional achievement in accident prevention. The Joliet firm had no disabling accidents from October 2, 1956 to January 20, 1959, a total of 1,000,000 man-hours. The Phillips Control Corporation, which has three plants operating in Joliet and has approximately 325 employees, manufactures electronic relays and components and is a subsidiary of the Allied Paper Corporation in Chicago.

• • •

The National Sanitary Supply Association has received the Chamber of Commerce of the U. S. national award for distinguished achievement in the public interest. The award was earned by the N.S.S.A.'s Modern Cleaning Methods Home Study Course—a course made available to housekeeping administrators, supervisors and custodians in the nation's industries and institutions. Mr. Bernard Kelly, executive secretary of the association stated that this recognition exemplifies the growing awareness of the importance of cleaning maintenance to the health and welfare of our nation.

• • •

New Jersey State Industrial Safety Committee has presented two safety awards to the Penetone Company, manufacturing chemists, Tenafly, N. J.

The Bureau of Engineering and Safety award was given in recognition of the fact that Penetone has completed 679,200 man-hours of work with no disabling injury since March, 1955. The merit award was for completing one year without any injuries.

• • •

Employees of Tork Time Controls, Inc., manufacturer of automatic time controls, earned the "Green Ribbon" Safety Award for the two-year period ending January 1, 1959, presented by Employers Mutual of Wausau for exceptional achievement in accident prevention. From Jan. 1, 1957 through Jan. 1, 1959, the period covered by the award, there were no disabling accidents at Tork. The period represents a total of 290,000 man-hours.

• • •

The B. F. Goodrich Company has received the 1958 Public Interest Award for exceptional service to safety from the National Safety Council.

The award was presented for the distribution of BFG's 32-page cartoon booklet on safe driving, "Tommy Gets the Keys," designed to "train the would-be teen-age driver before he gets the keys to the car." In announcing the 1958 awards, Howard Pyle, president of the National Safety Council, said: "A study of these awards shows the tremendous contribution of mass communication media to the sharp reduction in the number of accidental deaths last year."

• • •

National Biscuit Company's deliverymen last year drove their truckloads of crackers and cookies more carefully than ever. Nabisco safety engineers reported that in 1958 Nabisco had fewer preventable truck accidents than any time in the past ten years, and 15½ percent less than 1957. Operating 1,300 delivery trucks last year, the drivers piled up nearly 27 million miles delivering company products from sales distribution branches to retail stores.

The company conducts annual safety contests among branches as well as recognizing individual safe

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(Use Key # H-13 on Inquiry Card on page 1)

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Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Government Agencies throughout country. Patented. Manufactured only by

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(Use Key # H-14 on Inquiry Card on page 1)

driving records. Similar contests are conducted among car-driving salesmen and for truck-driving bread routemen, and separate records are kept on the operation of these Nabisco vehicles.

One Nabisco branch located at Fayetteville, N. C. has operated 134 consecutive months without a preventable motor truck accident. Sixty-three others completed a year or more without one.

• • •

With the completion of the Markland locks, the Dravo Corporation, contractor for the project, achieved an excellent safety record, far below the national average for this type of work, reports William L. Morand, Chief of the Safety Branch, U. S. Army Engineering Division, Ohio River. Contractor employees worked a total of 2,142,-311 man-hours, sustaining only six disabling injuries for a total of 153 days lost. Statistically, the frequency rate was 2.80 and the severity, 0.07. Readers of "SAFETY MAINTENANCE" may recall the feature story on the Markland Dam construction project in the October 1958 issue.

• • •

Two plants of the Maytag company were cited for their safety records by the Industrial Safety Association of Iowa. Maytag's wringer washer plant in Newton was awarded a certificate for improving its safety record in 1958 over the previous year. The appliance firm's plant at Hampton, Iowa, received a plaque for its record of five years without a lost-time accident.

• • •

Employees at the Chemstrand Corporation nylon plant in Pensacola, Fla., are continuing to make the plant one of the safest places in the world as they recently completed 10 million man-hours without a lost-time injury, according to Fred G. Gronemeyer, vice president and director of nylon manufacturing.

Chemstrand holds the world's record for safety in textile plants, establishing a mark of 17,106,185 hours of work without an employee losing time from his job because of an accident at work.

• • •

Earl C. Shedd, safety supervisor of the Naugatuck, Conn., footwear plant of United States Rubber Co., received the Distinguished Service Award of the Connecticut Safety Society during the society's annual meeting. It was only the 11th time that the annual award was presented since it was established by the society 14 years ago.

Shedd was honored for directing a program that led to the establishment of a new world's safety record for all manufacturing plants in the rubber industry. From September, 1957, to April of this year the 5,000 employees of the Naugatuck plant worked a total of 13,970,161 man-hours without a disabling injury or lost-time accident. The previous record had been 11,400,483 man-hours.

A graduate of Yale University, Shedd joined the rubber company, and was appointed as a one-man safety department for the Naugatuck plant, in 1942. He now heads a safety and plant-protection staff of 18 persons.

A lost-time accident occurring on April 6 terminated the recent world's safety record for the rubber industry. It was the plant's first lost-time mishap since September 27, 1957, and since April the plant's employees have worked another 1,500,000 accident-free man-hours.

• • •

Stearns-Roger Mfg. Co., Denver Engineering & Construction firm, has won the second highest award of The National Safety Council for construction safety. For the years 1957 and the past year of 1958, the Denver firm won the "Award of Merit."

Charles O. Voigt, Stearns-Roger President, said, "The firm has always considered safety of utmost importance." An adequate Safety Program, according to Mr. Voigt, has led to improved working conditions, lower construction cost to their customers and more favorable insurance rates. Safety also means reduction of personal suffering through less injuries and more efficient job operations through less lost time and lower accident frequency. The firm's Safety Program is under direction of R. J. Dougherty.

• • •

For achieving a company-wide accident frequency rate less than a third that of the entire chemical industry average and half of its own previous rate, Lever Brothers Company has been presented an Award of Honor by the National Safety Council. During 1958, at eight plant locations across the country as well as at company headquarters and its research center, Lever Brothers compiled a 1.1 accident frequency rate for every 1,000,000 man-hours worked. This compares with the recent chemical industry average of 3.6.

• • •

The United Fruit Company received a citation signed by Clarence G. Morse, Chairman of the Federal Maritime Board and Maritime Administrator, U. S. Department of Commerce, for being the first steamship line to achieve 100% radar training for its full complement of deck officers. The presentation was made to Mr. J. A. Marquette, Vice President, Ship Operations, by Rear Admiral Walter C. Ford, Deputy Maritime Administrator. Prior to presenting the citation, Admiral Ford commented upon the outstanding record of United Fruit Company's ships for safe operation.

The Maritime Administration maintains Radar Observer Schools on the Atlantic, Gulf and Pacific Coasts. The one-week course of training provides for a thorough grounding in all facets of proper radar operation, scope interpretation, plotting and maneuvering board methods. Inaugurated in the fall of 1957, close to 2,000 merchant marine deck officers have sucessfully completed the radar course, graduation from which is accepted by the U. S. Coast Guard for certification as a Radar Observer.

inside the trade

John T. Monahan

John T. Monahan, general sales manager of safety products for *American Optical Co.*, was elected president of the *INDUSTRIAL SAFETY EQUIPMENT ASSOCIATION*, at its annual meeting at Point Clear, Alabama, June 26.

The association, whose membership is comprised of the leading manufacturers of safety products in the United States, was established in 1934 to promote public interest in safety and protective equipment, and to develop through research, safeguards against industrial hazards.

Mr. Monahan has been with American Optical Co. for the past 15 years. Prior to his appointment as general sales manager of safety products in 1957, he was assistant sales manager, product sales manager, and development engineer. He is a member of the American Society Safety Engineers; American Chemical Society; American Industrial Hygiene Association; and the National Safety Council.

A reorganization of its Sales and Marketing Committee was made at a recent meeting of *FIRE EQUIPMENT MANUFACTURERS' ASSOCIATION, INC. Fred S. Buckley*, Walter Kidde & Co., Inc. was named chairman. Membership includes *W. E. Morgan, Jr.*, of the Kidde concern as an alternate; *W. P. Barwinkle*, American LaFrance Division, with *G. J. Halpin* of that division as an alternate; *A. C. Trautwein* of The Fyr-Fyter Co., and *Don O. Wood* as his alternate; *L. C. McKesson*, Ansul Chemical Co., and *Arthur Guise* as the alternate, plus *Stewart Boal*, Randolph Laboratories, Inc.

Melvin W. Rippe has been appointed District Manager for the Flooring and Adhesive Division of *THE FLINTKOTE COMPANY*, it has been announced by *W. L. Harper*, General Sales Manager. Mr. Rippe's territory will cover the entire state of Oklahoma and the northwest counties of Texas. His headquarters will be in Tulsa, Oklahoma. He makes his home at 1920 No. Main Street, Tulsa.

THE GAMEWELL COMPANY, manufacturers of fire alarm and signaling equipment, has appointed *Robert Lassell* to the position of Sales Manager, Municipal Fire Alarm and Signal Systems as announced by G. A. Swim, Executive Vice President. Formerly Regional Manager in Chicago, he will be located at the Newton, Mass. headquarters.

Upon recommendation of the President, Merwin Brandon, the Board of Trustees of Underwriters' Laboratories, Inc. promoted *H. B. Whitaker* to the position of Vice President and Chief Electrical Engineer with his headquarters in New York. He will be the head of the three electrical departments as well as the contact man for such organizations as ASA, AIEE, IAEI, NEMA, etc. *R. D. Barton* was elected Assistant Secretary with headquarters in Chicago. He will assist the Secretary in technical matters.

U. S. SAFETY SERVICE CO. has announced the opening of a new Eastern Regional Office at 131 Franklin St., Bloomfield, N. J., for distribution of the company's safety eyewear and other protective products. *G. R. Adair* is the Regional Sales Manager and *R. M. Bremer* is the Service Engineer. The former office at 160 Fifth Ave., New York City, has been discontinued.

Two sales changes in the *Hy-Test Safety Shoe Division* are announced by the division's General Manager, Norman C. Whitsett, *INTERNATIONAL SHOE CO. Victor Girolami*, formerly sales representative in Wisconsin and upper Michigan, has been assigned the territory of lower Michigan. He replaces Tom Heaster who has resigned. Girolami will headquarter at 600 Michigan Building, Detroit.

Robert Cary, sales representative for Iowa-Minnesota adds upper Michigan and Wisconsin to his present sales territory. Cary will headquarter at 4926 Royal Oaks Dr., Hopkins, Minnesota.

Elmer B. Ott has been elected chairman of the board of *THE ELECTRIC STORAGE BATTERY COMPANY*. Mr. Ott has been a vice president and director and president of the Company's Ray-O-Vac Company Division.

A little more than five years after its founding, *DURABLE PRODUCTS* has moved to new quarters at 2100 N. California Ave., comprising an area more than three times that of their former location at 5710 N. Western Ave., Chicago, Ill.

Partners Herbert Mitchell, a safety engineer, and Philip Garman, an industrial methods engineer, began supplying safety equipment, such as work gloves and allied equipment, and shipping supplies, tapes and paper products in September 1953. The following year they were joined by Bernard Garman as one of the principals.

Charles H. Gallaway

Charles H. Gallaway, vice president of *AMERICAN OPTICAL COMPANY'S Safety Products Division*, was cited recently on the anniversary of his 45th year with the company. Born in Southbridge, Massachusetts, he began his career with AO in 1914, when he became an order clerk at the age of 14.

Moving steadily forward, he was appointed in 1928, head of a then new department which specialized in the provision of safety goggles to a small segment of industry.

Through the years, Mr. Gallaway has helped pioneer the industrial safety movement.

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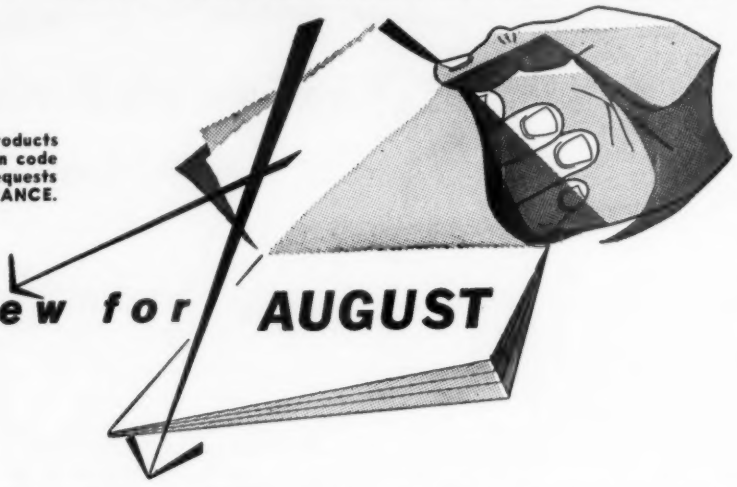


what's new for AUGUST

ROLL-ON NON-SLIP COATING

(Use Key # 912 on Inquiry Card on page 1)

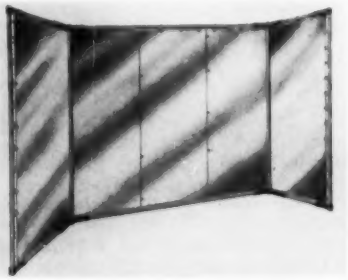
AN IMPROVED non-slip coating which can be rolled on quickly and easily to eliminate costly accidents and painful injuries caused by slippery footing, is being manufactured by Walton-March. The product is NSC*, a chemical compound capable of being sprayed or brushed, as well as rolled, on slip hazard areas, eliminating troweling or special preparation. The coating is compounded of durable plastic resins and polymerized oils with indestructible aluminum oxide granules in constant suspension. These granules and their millions of powerful gripping surfaces give traction even under oil or grease. The company reports that NSC* is fire retardant, having resisted temperatures up to 2,000 degrees F. without flaming. The waterproof coating cleans like new with ordinary soaps, powders or detergents.

DUST-CONTROL POWER SWEEPER

(Use Key # 913 on Inquiry Card on page 1)

A RIDER-TYPE power sweeper, to provide dust-free sweeping and cover up to 100,000 sq. ft. per hour, has been announced by Clarke Floor Machine Co. The new Clarke Model ERS-36 sweeps a 36-inch swath and can be equipped with one or two optional side brooms for sweeping right up to walls. Swath with one side broom is 47 inches, with two, 58 inches. The sweeper is compact for a rider-type—45½" wide x 74" long—and has a turning radius of 66 inches and high maneuverability. Its hydraulically operated debris hopper holds 750 lbs. (seven cubic feet) and is easily dumped by a control lever located at the operator's fingertips.

It has a 7 hp. 4 cycle gasoline engine, or can be furnished with an LPG gas equipped engine. It also has an automatic clutch and power transmission. The sweeper's 17-inch diameter broom has 16 individual replaceable brushes and can be adjusted to 23 different positions for maximum brush life. Its dust control system, with 9-inch diameter turbine fan and dust filter, removes all dust from broom chamber and debris hopper. The unit may be used on all types of surfaces, both indoors and out-of-doors.



PORTABLE ALUMINIZED SCREEN

(Use Key # 914 on Inquiry Card on page 1)

FROMMELT Porto-Screens are now available with Ray-Foil, the new UL approved protective heat curtain of aluminized asbestos cloth which gives assured protection against fire and high radiant heat. These easily transported screens can be set up in areas where spark, flash, and heat endanger personnel and equipment or slow down repair work. The screens, in three, four, or more sections serve as effective wind breaks, or as inexpensive, highly flexible room dividers and partitions. The four section screen easily forms around a job, and its floor hugging curtain makes it suitable for welding use. Manufactured in five- and six-foot heights and a variety of widths, or made to order, Porto-Screen Kits include strong slip-on fittings which fit your own pipe or tubing. No pipe threading is necessary. Ball-bearing casters are available as optional equipment.

DISPOSABLE CLOTHING

(Use Key # 915 on Inquiry Card on page 1)

A LOW-COST line of disposable clothing for industrial, laboratory, institutional, and commercial use, is introduced by the General Scientific Equipment Co. The garments are attractively styled and durably constructed of newly developed materials. Maximum wear-resistance is obtained for heavy duty jobs where protection against soil is most needed.

The clothing is soft, light weight, and comfortable, resembling woven cloth. It is also sanitary because each worker receives a new garment each wearing time. Available in shirts, pants, laboratory coats, hat, boots, aprons, and gowns, the clothing is also suitable for plant visitors.

Economically priced, disposable clothing reduces in-plant handling and high laundry costs. Fire-resistant and water repellent, this disposable clothing can be worn by both men and women, over street clothes or as an outer garment. It is lint free and can be autoclaved.

MOLDED SAFETY SHOES

(Use Key # 916 on Inquiry Card on page 1)

A NEW LINE of molded waterproof safety shoes, has been introduced by International Shoe Company's Hy-Test safety division. Construction features include water resistant sylflex leather uppers with one piece soles and heels shaped and molded directly to the uppers by hydraulic pressure and heat. Seams and needle holes are sealed with a self-vulcanizing adhesive. Extensive testing of the new line has subjected the shoes up to 25,000 flexes with no sign of water penetration. Soles and heels are of brown, anti-slip grit composition.

The waterproof features should appeal to workers in breweries, slaughterhouses, outside construction, tanneries, logging, chemical plants and other occupations where water and moisture are present. An 8-inch boot, a 6-inch shoe and a plain toe oxford comprise the new line. Each shoe features an anchor flange steel box toe.

TRAVELERS' FIRST AID KIT

(Use Key # 917 on Inquiry Card on page 1)

AN INEXPENSIVE first aid kit, introduced by E. D. Bullard Co., is made of sturdy weatherproofed green vinyl on the outside with clear plastic pockets on the inside, and contains six single Unit First Aid Paks. The travel kit weighs 26 ounces and is 5" x 8" when closed. It is compact enough to fit into the glove compartment of a truck, bus, automobile or boat, or in a pocket of a jacket. Enough first aid material is included to insure adequate protection for from six to ten people. All individual first aid units are packaged in Polyethylene to assure freshness no matter when they will be used. The units may be chosen from any of more than 100, including antiseptics, plastic bandages and burn treatments.

FLUORESCENT SAFETY PAINTS

(Use Key # 918 on Inquiry Card on page 1)

A NEW line of fluorescent safety paints, utilizing vivid colors to keep workers' attention focused on the danger areas present in every plant, has been developed by Lawter Chemicals, Inc. The company reports that tests have proven that HI-VIZ safety paints do not blend in with surrounding background colors, and they maintain their high visibility factor indefinitely indoors when used on fire protection apparatus, flammable liquid containers, danger signs, emergency stops on machines, hazardous switches, stairway treads, low beam and pipe warnings, crane hooks, tractors and industrial locomotives, first aid and safety equipment, elevator doors, moving belts, and machinery and various types of radiation hazard warnings. The coatings act as a constant safety reminder to the safety operator when painted on these danger areas. Eight colors are available: Red-Orange, Yellow-Orange, Red, Pink, Cerise-Red, Gold-Yellow, Lemon-Yellow and Green. Purple, a special color is also available and recommended for radiation hazard markings.

ALUMINUM ROOF COATING

(Use Key # 919 on Inquiry Card on page 1)

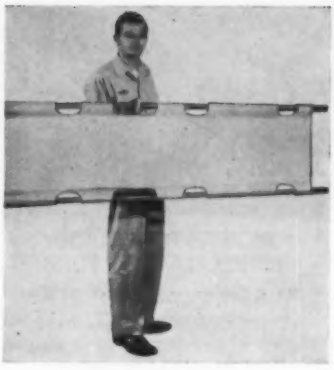
SUBSTANTIAL savings in operating air-conditioning equipment is made possible through the use of Silverleaf Aluminum Roofing, according to the manufacturer, Pace Products, Inc. The use of the additive "aerex" helps achieve a brightness that locks out the sun's infra-red heat rays from roofs aluminized with the product. In mid summer, roof temperature is reduced over 30 degrees, with a great easing of the load on the air conditioning, as the roof on the average building constitutes a 20% to 40% heat factor. The coating is applied with brush or can be sprayed with heavy duty spray equipment. It is available in two formulas: non-fibred grade for roofs that require insulation only, and a fibred heavy grade for old worn roofs that also require waterproofing protection.

NON-FLAMMABLE RUST PREVENTIVE

(Use Key # 920 on Inquiry Card on page 1)

FIRE HAZARDS, inherent in conventional solvent-type rust preventives, can now be eliminated through the use of non-flammable "Nox-Rust 920," a recent development of Nox-Rust Division, Daubert Chemical Co. An emulsion type product, Nox-Rust 920 can be used without danger near forging, welding, or other operations where solvent-type products would constitute a hazard.

Free of toxic or combustible fumes, it requires no special handling or precautions and provides protection against rust for spare parts, assemblies, and machines during in-plant storage or in transit. Applied by dipping, spraying, or brushing, it dries rapidly to a firm, transparent wax coating which will protect metal up to five years indoors, and up to three months when exposed to the weather. Nox-Rust 920 covers 900 square feet per gallon and can be diluted with water when protection requirements permit.



LIGHTWEIGHT FOLDING STRETCHER

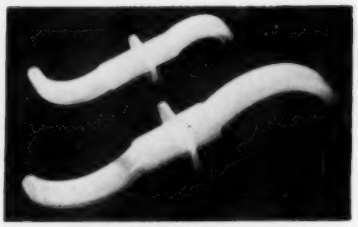
(Use Key # 921 on Inquiry Card on page 1)

A NEW lightweight folding stretcher which weighs only 7¼ pounds, yet is capable of supporting more than 400 pounds is now available from Medical Supply Co. in the U. S. and CAMESCO Medical Supplies Ltd., in Canada. Of aircraft-type aluminum tubing and vinyl-impregnated nylon construction, the UtiliPort takes only 37" x 3" storage space when folded. Unfolding it to its 6'2" length is a simple, fast operation and special hinge sleeves quickly slide into position for positive locking. The bed, which is made of abrasion-resistant nylon, is said to far outlast ordinary types of material. It is unaffected by moisture, mildew or rot, and is resistant to gases, flame or cold. The UtiliPort folding army-type stretcher may be purchased with choice of metal wall case or fabric carrying pouch.

TRAVELING GROUND FOR WIRE STRINGING

(Use Key # 922 on Inquiry Card on page 1)

A TRAVELING GROUND for safe wire stringing, known as the Bashlin No. 795, is being manufactured by the W. M. Bashlin Co. The following features are embodied in this safety device: positive ground, light weight, eye for hotstick pickup, bronze oiled bushings, brush pickup with shunts to common ground, brass shoulder bolt axle. Adjusts for conductors to and including 795,000 cm.—ACSR, shouldered pin to attach ground clamp, operates in either vertical or horizontal position, can be installed without threading through, a Heli-Coil thread is used in frame, all parts are replaceable.



MOUTH-TO-MOUTH RESUSCITATING TUBE

(Use Key # 923 on Inquiry Card on page 1)

A MOUTH-TO-AIRWAY emergency resuscitating tube, patterned after air passages in the human body, has been developed by the Mira Corp. Laboratory measurements and results under actual emergency circumstances demonstrate the mouth-to-mouth, or mouth-to-airway method as an effective technique for reviving non-breathing victims of drowning, smoke or gas asphyxiation, or electric shock. It is reported capable of moving from three to five times as much air into the lungs as other approved manual methods. The tube eliminates direct oral contact between rescuer and victim, keeps open the victim's air passageway, and requires a minimum of energy from the rescuer. Tests indicate that pulmonary oxygen can be restored with four to five inflations, and about 97% of arterial oxygen is restorable in from 15 to 45 seconds, depending upon the circulatory state of the victim at the time artificial respiration begins. The tube is made of durable polyethylene plastic, is resistant to most chemicals used in cold sterilization, and may be sterilized or autoclaved. Available in two sizes, for adults and for children.

CHEMICAL-RESISTANT FLOOR TOPPING

(Use Key # 924 on Inquiry Card on page 1)

CHEMI-TOP, a new corrosion-resistant floor topping for food plants, laundries, refineries, bottling plants, chemical processors, and other plants having severe floor-corrosion problems has been announced by The Garland Co. The product is a dense, non-porous surfacing compound that withstands impact, wear, and corrosive action. Since Chemi-Top is chemically inert, it is unaffected by salts, oils, alkalis, grease, solvents—most acids and strong industrial chemicals. Applied ⅛" thick, it bonds firmly to concrete, metal, or wood, without building up floors so high that doors won't open. The manufacturer states that plant downtime is eliminated since it sets for foot traffic overnight and for heavy wheeled traffic over a week-end. It can also be applied 1/16" thick for protective surfacing of tank-linings, drains, walls, benches, and metal surfaces. Available in gray, green, red, and cement colors.

NEW MIST COOLANT UNIT

(Use Key # 925 on Inquiry Card on page 1)

A NEAT, compact, low cost coolant unit especially designed for small precision drilling, tapping, milling, sawing, grinding, etc., operations is announced by Trico Fuse Mfg. Co., Type J "Trico-Mist" equipped with a 2 ft. Neoprene coolant line and mist generating nozzle. A mounting stud is provided for easy installation. Has dual valves, one with red knob to control air and the other to control flow of liquid coolant at the tip of the nozzle. Operates on shop air line pressure of 50 to 125 lbs. Because mist is achieved by an atomizing principle, there is no air pressure in the reinforced shatterproof 8 oz. capacity plastic reservoir at any time. Coolant supply is always visible.

Each unit includes a magnetic nozzle holder having an adjustable arm so that the coolant can be directed to the cutting edge of the tool. The tip of the nozzle is protected against damage by a special guard. All metal parts are solid brass and brush finished.

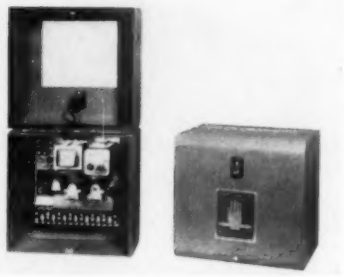
PARABOLIC AIR FILTER

(Use Key # 926 on Inquiry Card on page 1)

MEETING A demand for a filter with high air-cleaning efficiency, dust-holding capacity and low initial resistance, Arco Mfg. Corp. offers the first parabolic shaped disposable bag type filter engineered for air-conditioning, heating and ventilating systems. In design and material, the "Arco B/T Pure-Air Filter" represents a new concept. Filtering action is strongest where the dust particles are finest. Airflow is strongest where the accumulation of large dust particles is greatest. The least resistance to air flow is at the back of the bag, gradually increasing up the sides. "Arco B/T Filters" are made with upstanding fibers on the surface. This helps promote the formation of a pervious filter cake. As the filter cake builds up, the air stream hits it at an angle, breaks it off and carries it to the back of the bag.

Advantages cited for the new filter include: It has higher average efficiency than viscous-coated types; Dirt holding capacity is unusually great; There is low resistance, .10 inches w.g. at 350 FPM .15 inches w.g. at 520 FPM. Low initial resistance makes it adaptable to low or high velocity systems.

The new filter is suitable wherever a high degree of air-cleanliness is needed, as in hospitals, laboratories, precision instrument factories, color painting, food and drug plants, etc. Installing the filter, which weighs only a few ounces is simple. Supporting or loading devices are not needed. The mouth of the filter has a stiff fiber frame which facilitates insertion and removal. Changes are made in seconds. It fits most filter banks with a downstream clearance of 18". Since this is an unoiled filter, there is no risk of ceiling discoloration by entrained oil. During replacement, all dirt remains inside the bag. There is no bypassed air because the filter medium is in direct contact with the holding frame.



GAS-BURNER COMBUSTION SAFEGUARD

(Use Key # 927 on Inquiry Card on page 1)

A COMBUSTION safeguard control, called the Protectofier, has been developed by Protection Controls, Inc., for continuous supervision of gas-operated burners in ovens, furnaces, boilers and other heating equipment. The control prevents fires or explosions from build-up of combustible fuel mixtures in either single or multi-burner installations. It has greater compactness and eliminates many duplicated components. A plug-in sub-assembly, called a Flame-Pak, containing the entire electronic circuit (one for each burner). Any practical number can be used with one control to accommodate multi-burner installations. If a flame failure or fault occurs at any burner position, the signal from the flame electrode to its corresponding Flame-Pak unit is interrupted. This immediately breaks the circuit to the safety shut-off valve, and stops fuel flow to all burners in the system. The Protectofier is approved by Factory Mutual Laboratories and Underwriters' Laboratories, Inc.

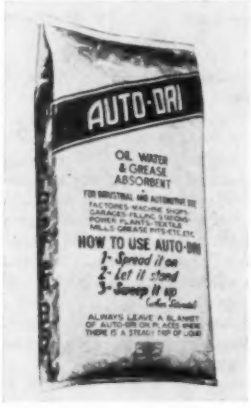
This combustion safeguard eliminates critical flame adjustments. Electrodes can even be immersed through the center of the flame without causing unstable operation, permitting use of a single electrode as both igniter and flame sensing unit. Special flame cable is not required. An-

other new development is the Telefier Combustion Safeguard Indicator System available with the control unit. This signal device reduces downtime when flame failure or fault occurs, by providing direct-reading numerical indication of the faulty burner position, even though all burners are automatically turned off.

SEAMLESS FINGER GUARD

(Use Key # 928 on Inquiry Card on page 1)

A SEAMLESS finger guard, developed by the Advance Glove Mfg. Co. fully protects the workman's injured fingers and yet does not interfere with their dexterity. Worn comfortably over a light bandage, this new finger guard shields the finger or thumb from painful contact but does not render it useless in the manner of heavy bandages. Easily removed and replaced, it allows the workman to wash his hands freely. It is lined with absorbent cotton and is available in both open and closed-end models. A high quality plastic of great strength and flexibility allows this finger guard to be also worn as a prevention against light cuts and injuries in such jobs as assembling, electrical spotting and handling of small parts.



NON-COMBUSTIBLE FLOOR ABSORBENT

(Use Key # 929 on Inquiry Card on page 1)

AN ECONOMY-GRADE mineral floor absorbent, slip-proof and non-combustible, is being introduced by the Speedi-Dri Division of the Minerals & Chemicals Corp. of America. It is intended for use where a lower absorbency is suitable. AUTO-DRI is a granular mineral which automatically absorbs liquids, removes them from the floor and prevents them from being tracked to other areas. It absorbs liquids without becoming mushy, and provides a slip-proof surface. Spread quickly by rake or broom, it cleans oily or greasy floors and can be swept up for use again. It protects wood or composition floors from sparks generated by welding, grinding or other metalworking operations. When spread on floor areas where oil or grease drips regularly, AUTO-DRI absorbs and removes these materials from the floor, reducing fire hazard and floor cleaning expense, and providing a sure footing to prevent slips and falls.

SPARK PROTECTED TRUCK

(Use Key # 930 on Inquiry Card on page 1)

THE BATTERY POWERED, stand-up, end-control Docker, manufactured by the Automatic Transportation Co., can now be furnished with Underwriters' Laboratories, "Type EE" spark protected label. "Type EE" trucks may be used in locations classified as Class I, Div. 2 (paint spraying or dipping, solvent recovery, rubber cement mixing), Class II, Div. 2 (grain handling in bags or closed containers) and Class III, Div. 2 (storage of textile and cordage fibers, excelsior, kapok or Spanish moss).

The truck, in capacities of 1500 to 3000 pounds, 24 and 30-volts, meets all the specifications outlined in the U.L. Standards. All switches, controllers and contactors are enclosed in a steel case which is mounted on battery compartment cover and in no way interferes with the operator's vision.

Additional safety features available on the Docker are the overhead canopy, flashing red light, plus an adjustable spotlight, making it suitable for operation in a wider range of applications.

CENTRAL VACUUM SYSTEM

(Use Key # 931 on Inquiry Card on page 1)

FACTORY cleanliness, to prune maintenance costs while achieving better production efficiency, is a simple matter with Lamson Corporation's Exidust Central Vacuum Cleaning System. It consists of five components—cyclone type primary dust separator, secondary bag type separator, exhauster and motor unit, piping system, and fixed pick-ups or flexible nozzles. It handles dry clean-cut metal and plastic chips. Shown is a flexible nozzle for operator's use. The fixed pick-ups, fastened on machine where chips are formed, collect waste automatically. System, which has a capacity ranging from 3 to 100 hp., has three big housekeeping advantages, according to Lamson: (1) safely gets rid of machine chips, especially flammable like plastics; (2) keeps machine free of chips, thereby lessening downtime or operational wear; (3) salvages scrap for re-sale or re-working. Each installation is individually engineered, based on such factors as: number of operators, type of operations, size of hose and plant layout.

FULL-FACE GOGGLE RESPIRATOR

(Use Key # 932 on Inquiry Card on page 1)

A FULL-FACE, one-piece combination goggle and respirator molded from flexible rubber has been introduced by American Optical. The new Drednaut features an internally molded ridge separating the goggle section from the respirator section. The resulting double facial seal stops exhaled air from reaching the goggle section. This feature is particularly advantageous when working in highly toxic areas. The goggle contains an impact resistant .060" thick acetate lens and the goggle mask is constructed of flexible rubber which conforms to the contours of the face. In one model series, goggle ventilation is provided for by 16 grommet-type openings. These openings are covered with a fine stainless steel mesh screening designed to shunt liquids and dusts from the eye area. A gas-tight model series is also available without ventilation ports.

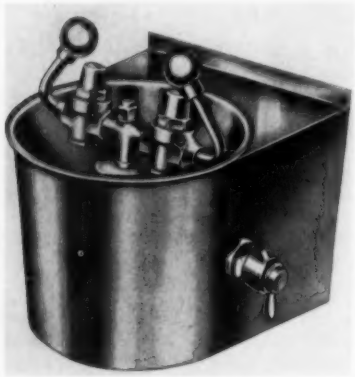
The respirator section contains a twin cartridge combination. Thirteen sets of cartridges and filters are available for protection against dusts, mists, fumes, gases, sprays, vapors, insecticides, radioactive particulate matter or combinations of these hazards. The unit can be changed into any one of 13 respirators simply by changing cartridges, which easily screw into the face piece. A basal drainage feature in the respirator expels all collected moisture. The Drednaut mask is lightweight and fits over all types of personal glasses.

NEW FLOOR MACHINE LINE

(Use Key # 933 on Inquiry Card on page 1)

A NEWLY designed line of floor maintenance machines is now being marketed by the makers of Johnson's Wax. Key features of the new machines are quiet operation and rugged construction. The quietness of the "Expert" line is attributed to the precision machining of the gear box components, which also are permanently sealed against grease loss. The motor, electrical system and chassis were engineered for dependable service and simplicity. The sturdy chassis has a bright corrosion-resistant finish and a non-marking wrap-around rubber bumper.

Safety features include a dual trigger handle that responds instantly to pressure release, and a patented wire in the brush that protects the operator against static shock. Attachments are available to convert the machine to buffing, scrubbing, steel wooling, dry cleaning and carpet shampooing. Available in 13-to 22-inch sizes.



EYE-WASH WALL FOUNTAIN

(Use Key # 934 on Inquiry Card on page 1)

A NEW wall-mounted emergency eye-wash fountain finished in stainless steel, and concealing trap and other working parts has been designed by the Haws Drinking Faucet Co. Designated Model 7450, it is intended for wall installation where the handsome appearance of smoothly contoured stainless steel is desired. The fountain provides instant first aid for eye contamination by chemicals, caustics or foreign particles. This immediate source of relief can often prevent serious or permanent injury, and it provides an effective first aid step pending arrival of medical aid. Medical authorities point to the importance of sufficient water irrigation to counter eye contamination. Stainless steel for this model is 18-gauge, type 304. A quick-opening lever handle valve activates twin chrome plated fountain heads that direct streams of water into the eyes. Water pressure and volume are automatically controlled by Haws regulators.

COLOR-CODE SAFETY SYSTEM

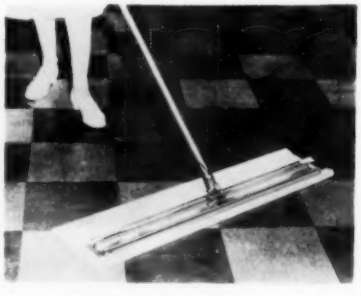
(Use Key # 935 on Inquiry Card on page 1)

PUSH-BUTTON color-coding for safety and production, is featured in a new line of industrial aerosols, including nineteen self-spraying colors and two marking paints, made by Sprayon Products, Inc. The push-button cans are quick, clean and easy to use for labeling pipes, valves, conduits, etc.; for spotlighting moving parts and other safety hazards; for identifying emergency equipment; and for coding stock, materials, and marking tools by department. The full range of enamels was designed to fit any present coding system. All colors are fast-drying and permanent; all are tested for quick recognition under different light. In addition to the coding colors, the line comprises standard equipment finishes, special lubricants, protective coatings and de-greasers, and most other self-spraying products used in industry, from silicone mold release to blue layout fluid. Also included is the Jet-Pak sprayer, a re-use self-powered spray gun that sprays any liquid at the touch of a button.

FLOOR SWEEPER & CLOTH

(Use Key # 936 on Inquiry Card on page 1)

DESIGNED for more efficient cleaning of corridors, offices, gymnasiums, assembly rooms, and other open areas, Kemi-Kleen No. 40 sweeper, manufactured by Lowndes Products, Inc., cuts a 40-inch-wide path with its chemically-treated cleaning cloth—picking up dust, dirt, and grit as it sweeps away refuse. Use of disposable cloth makes for significant savings, the company reports. The sweeper's lightweight aluminum base weighs just 4½ lbs. and tests have shown this to be the ideal weight for maximum pick-up of dust from floors without leaning on handle. The any-angle swivel handle attachment enables operator to clean from any position, while the Polyurethane foam base cushion provides resiliency for improved pick up of dust and dirt, plus protection from contact damage. A new size of Kemi-Kleen cloth (40" x 18") is also available for most efficient use with no. 40 sweeper. Attached quickly and easily with new fast-gripping Hinge-Lock device, it presents six clean areas per cloth for thorough utility.



AEROSOL DISINFECTANT

(Use Key # 937 on Inquiry Card on page 1)

A NEW spray-type disinfectant and deodorizer, introduced by the Hysan Products Co., provides protection from harmful bacteria in public and private areas, for a period of many hours. "Fyte" has a residual germicidal action. When sprayed on any surface it will dry quickly, leaving a protective and effective germ-killing and odor-free surface. Applications include toilet seats, urinals, garbage can areas, lockers, nurseries, and all institutions, factories, offices, schools and commercial buildings.

The micromist spray from this aerosol can reaches otherwise impenetrable areas. The packaging saves time and labor spent in diluting, filling and spillage clean-up where the disinfectant must be mixed and applied in other manners. Independent laboratory reports show that its disinfectant qualities will kill bacteria, fungus and all common types of disease germs. "Fyte" is registered as a disinfectant under the standards of the U. S. Department of Agriculture.

NON-SLIP WATERPROOF DECKING

(Use Key # 938 on Inquiry Card on page 1)

AN UNUSUALLY versatile compound that can be used for resurfacing floors, roofs, ramps, platforms, and for waterproofing

surfaces has been developed by Horsey, Robson & Co., Inc. Called "Horsey-Set" Waterproof Decking, this heavy-duty material withstands all types of foot, vehicular and equipment traffic, including 55-gallon drums and the weighted, narrow wheels of dollies; is resistant to sun, rain and weather; is unaffected by boiling water, steam, gasoline, oils, grease, acids, and alkalies. Only a single thick coating is necessary for full protection. On floors and walkways the material provides excellent slip resistance.

The resurfacing material has two separately packaged components which are mixed just before application. The decking compound can be used on metals, concrete, masonry, tile, wood, etc. It is recommended for food processing plants, beverage plants, hospitals, laundries, pulp and paper mills, solvent plants, textile plants as well as general industry. The decking is non-toxic and fume-free. The company also makes a tank-liner coating with the same characteristics.

PROTECTIVE SKIN LOTION

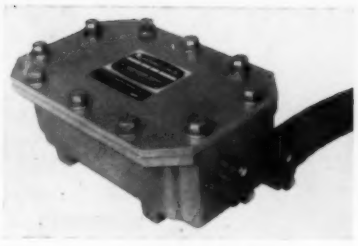
(Use Key # 939 on Inquiry Card on page 1)

A NEW skin protective product, available from the Vanfaire Co., provides an invisible protection against resulting rashes for the industrial worker with hands exposed to chemicals, oils, grease, solvents, plastics, and paint. Applied like any hand lotion, it is soluble in soap and water and protects the hands up to 12 hours. After many tests it is now reported being used widely by the plastic, aircraft, electronics, and chemical industries.

ELECTRICAL GUARD FOR MINE MACHINES

(Use Key # 940 on Inquiry Card on page 1)

A TWO-PART unit, consisting of transmitting and receiving elements, offers positive protection against ground faults and short circuits on any and all D.C. operated off-track mining machines and their trailing cables, reports its manufacturer, the Electrical Products Division of the Joy Mfg. Co. Whenever the continuous monitor signal of the sender (attached to mining equipment and shown in picture) is interrupted, the receiver (part of automatic circuit breaker at outby end of cable) acts instantly to



remove power completely from the trouble-causing machine and/or cable.

The Lectronic Sentry quickly prevents the energizing of equipment whenever a dangerous condition exists, such as a ground fault in the machine itself, a short circuit in the machine or its trailing cable, or a broken or open cable conductor. The sentry distinguishes between normal conditions of overload and potentially dangerous short circuits, and forestalls destructive arcing caused by heavy fault currents, as might be the case where a ground wire is used.

The U. S. Bureau of Mines has accepted the Lectronic Sentry, which is designed to be fail safe, for use on permissible equipment. The safeguard eliminates the use of a grounding conductor and allows utilization of less expensive 2-conductor cable to provide more cable in less space for more flexibility and longer range of movement on the part of the off-track equipment. Less cable also means fewer repairs of cable and less downtime of equipment.

NEW HOSES & NOZZLES FOR CARBON DIOXIDE EXTINGUISHERS

(Use Key # 941 on Inquiry Card on page 1)

THREE carbon dioxide portable fire extinguishers featuring new hose and discharge nozzle assemblies have been awarded highest Underwriters' Laboratories ratings for their respective capacities. Manufactured by Walter Kidde & Company, Inc., the units are of 10, 15, and 20 pound capacities and are available in either trigger (left) or squeeze valve (right) actuating mechanisms. The portables are rated at 8B:C, 10B:C, and 12B:C respectively. The hose-horn assembly is easily screwed into older extinguishers and automatically upgrades their fire smothering ability. New brackets are also provided. U.L. rated 2½ and 5 pound carbon dioxide portables also are available.

NEW TEMPLE HOOKS

(Use Key # 942 on Inquiry Card on page 1)

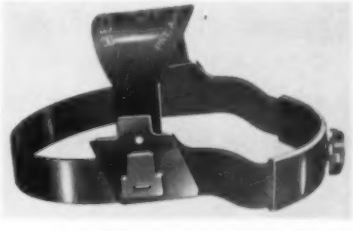
SMOOTH, pink plastic temple hooks have been adopted as standard ear pieces on all Watchemoket Optical Co. Tuc-Away goggles with plastic Retrax temples. They are designed to provide greater safety, a more comfortable behind-the-ear fit and a more attractive appearance. These new hooks slide in and out of the temples for

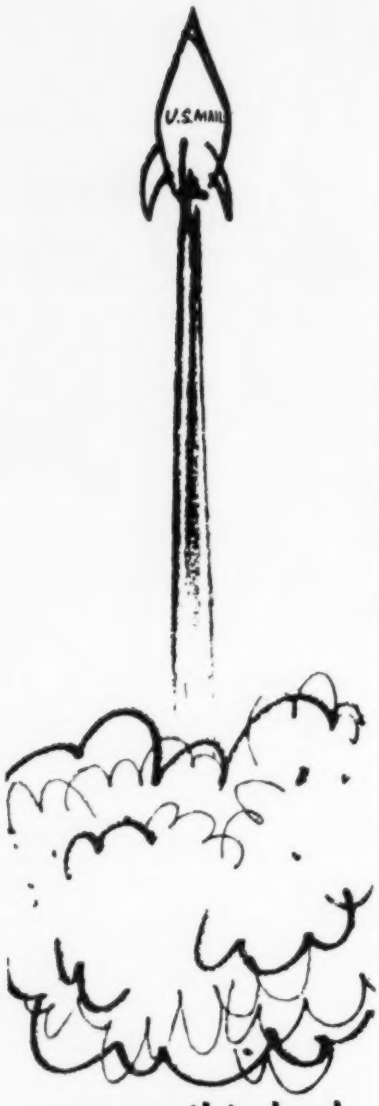
easy adjustment by the wearer and, once adjusted, they hold firmly in place with maximum comfort and minimum pressure. This feature and the Tuc-Away universal nose bridge make it possible to stock one size goggle and fit all workers quickly and perfectly. This goggle also features optically correct, interchangeable, heavy impact lenses which snap in and out of the frame for easy replacement by the wearer. These lenses are available with integral side shields for added protection. The temple hooks are also available on other models.

3-WAY HEADGEAR

(Use Key # 943 on Inquiry Card on page 1)

DESIGNED to conform to any head size, the new Cesco Hed-Rite Headgear adjusts three ways: for head size; for over-all strap length; for overhead strap position. Easy turning rear knob provides head-size adjustment by ratchet action. Ratchet cannot be stripped by normal use because excessive tension results in slipping action which in no way will damage the ratchet or teeth. Wide cross strap pivots freely back and forth. Four holes in each end of the strap permit positioning strap length to conform to any crown height or head contour. Unique headband design has the proper combination of curves and opposing cambers to produce the broad contacts necessary for complete comfort. The headgear can be worn with any face shield, helmet, hood or goggle equipped with Cesco X-14 brackets. This sturdy, nonshrinking, non-warping Nylanite Headgear is instantly detachable from helmet or shield without the use of tools. Also interchangeable with hard hats, it snaps on and off in seconds. Headgear is said to be 20% to 25% lighter than previous headgears. Made by Chicago Eye Shield Co.





zone mail indeed results in speed

The Post Office has divided 106 cities into postal delivery zones to speed mail delivery. Be sure to include zone number when writing to these cities; be sure to include *your* zone number in *your* return address — after the city, before the state.

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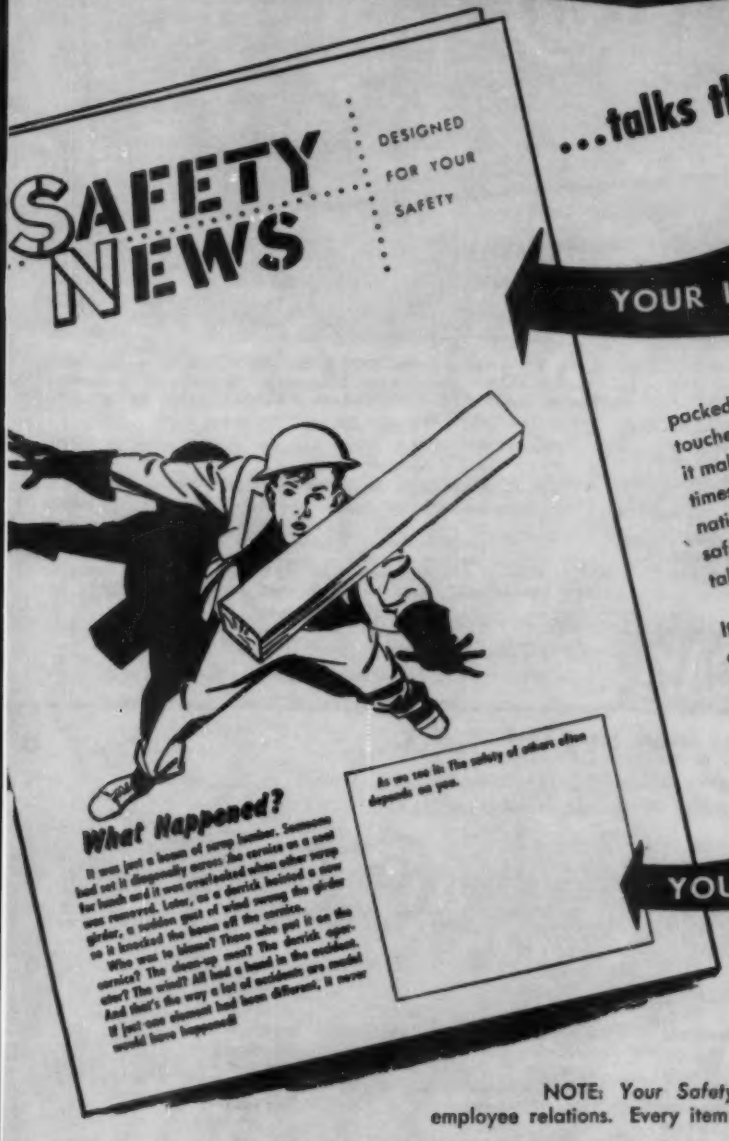
SEND THIS PERSONAL SAFETY MESSAGE TO EVERY ONE OF YOUR EMPLOYEES.

- Safety is made appealling . . vivid . . engaging . . colorful!
- Each worker clearly sees how safety benefits him . . how doing his part helps others!
- You get enthusiastic safety cooperation instead of tolerance . . from every employee . . every month!



. . . talks the worker's language!

YOUR IMPRINT HERE!

packed with pictures, alive with animated cartoons, touched with humour that gives snap to your message, it makes safety interesting and down to earth. Twelve times a year it covers accident hazards. Across the nation leading industrial firms state it's the only safety paper their employees will read . . . and take home to their families.

It gives the employer the advantages of personal contact . . . saves time and expense. One "lost time" accident prevented . . . more than pays for the yearly cost! Try it . . . it works!

YOUR SIGNATURE HERE!

Make *Your Safety News* your own publication . . . your good will ambassador . . . working for you toward better industrial relations. If you wish, your facsimile signature can be printed here to identify you with the message that gets next to your men and boosts morale.

NOTE: *Your Safety News* is designed to promote better employer-employee relations. Every item is carefully weighed and tailored to this viewpoint!

INSIDE PAGES
(Pages 2 and 3)

THOUGHTLESSNESS IS A THIEF
He'll steal his way into what you're doing, distract your attention and walk off with a finger, arm, eye or foot. Thoughtlessness takes many forms: it may be daydreaming, or worry about some personal problem, or just plain inattention. Anything that distracts you, especially around machinery, is a thief of your personal safety.
PLAYFULNESS IS A PIRATE
He is a deceptive rascal. His hi-jinks may put him in the spotlight, but his practical jokes and showing-off often result in serious bodily injury and even death. And note this: he, himself, has lost a leg! As so often happens, horseplay can boomerang and the practical joker gets hurt too!
What You Should Know About Carbon Monoxide
This is a picture of carbon monoxide gas!
That's right, you can't see it. It's colorless, non-irritating, tasteless, practically odorless, but also deadly.
Here are the symptoms of carbon monoxide poisoning. First, a tight feeling across the forehead, followed by headache, throbbing temples, weariness, weakness, dizziness, nausea, loss of muscular control, increased pulse and breathing. BUT if the concentration of the poison gas is high, there may be loss of consciousness without these warning signals.
Just a few breaths of air containing 1% carbon monoxide can be fatal . . . so can one part of carbon monoxide in a thousand parts of air when breathed for 90 minutes.
It is possible for carbon monoxide to leak inside of a car if there is a loose exhaust pipe or manifold connection, blown-out exhaust gasket, cracked exhaust manifold, or leaky muffler. Play it safe.
1. Be sure your muffler and exhaust are in good condition (they can leak long before they become noisy!).
2. Always keep a car window open, even a little, for fresh air.
AN INTIMATE LOOK AT FOUR VILLAINS
SAFETY LAZINESS IS A SIMON LEGREE
If you are lazy about safety rules, then accidents will have the whip hand. We are safety-lazy when we don't bother to use mechanical guards, to take time to get the right tools for the job, to wear protective equipment such as goggles, hard hats, safety shoes, respirators, gloves, etc. Yes, Simon Legree has a whole pack of accident hounds to trail you.
HAZARDOUS METHODS ARE A HOLD-UP MAN
This villain, unsafe work habits, likes to lie in ambush for the unwary. But how do we fall into bad working habits? It may be by trying to cut corners, by wanting to keep to the old way of doing things, or by over-confidence. It's hard for anyone to believe that an accident can happen to him. It's easier to make excuses to ourselves for ignoring safety rules, but alibis only lead us up a blind alley with an accident waiting in ambush.
Two Easiest Reasons
For Wearing Safety Shoes

EMPHASIZES SELF INTEREST

Your employee's self interest in his own safety is always emphasized. Constant safety consciousness is promoted by covering household hazards, transit to and from the job and on the job caution against accidents.

CLEVERLY ILLUSTRATES THE POINT

Artwork is carefully chosen to lodge home each point persuasively. The cartoon style makes YOUR SAFETY NEWS as familiar and welcome as the picture packed Sunday supplement.

WINS READERS WITH A FOLKSY APPROACH

Keeping the contents folksy, adding the light note of humor, gets your message across with a nudge instead of a bludgeon. Your monthly chat gets enthusiasm instead of indifference.

RIVETS ATTENTION WITH VIVID COLOR

Generous use of color sparks the message, and adds impact to the contents of YOUR SAFETY NEWS. Each issue is as alive as any news-stand favorite.

HOW TO ORDER:

YOUR SAFETY NEWS may be ordered with either the standard imprint or with your Own Special Imprint. The standard imprint reads "PLEASE COOPERATE FOR THE SAFETY AND HEALTH OF ALL . . . signed . . . A SAFE WORKER."

You can personalize YOUR SAFETY NEWS with the name of your firm and the name or facsimile signature of a company representative as illustrated. Give full instructions for your Special Imprint on the order blank below:

Item (1) FIRM NAME: Please show the name of your firm exactly as it is to appear.

Item (2) INDIVIDUAL NAME OR SIGNATURE: (If Desired). On a sheet of white paper, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

NOTE: Although a personal signature is effective, some firms substitute: SAFETY DEPARTMENT, YOUR SAFETY COMMITTEE, A SAFE WORKER, etc.

CUT OUT AND MAIL TODAY!

ALFRED M. BEST COMPANY, Inc. • 75 Fulton Street, New York 38, N. Y.

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Until further advised please publish for us each month _____ copies of YOUR SAFETY NEWS at _____¢ each.

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501 to 1,000 copies . .	4½¢ each	4¢ each			

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Another Outstanding Safety Equipment Development from **CESCO**

NEW G-3 Hed-Rite Headgear

Designed with your head in mind!

- BROAD BEARING, PIVOTING CROSS STRAP, with concealed height adjustment
- NON-SLIP, NON-STRIPPING RATCHET adjustment for head size
- NYLANITE CONSTRUCTION, sturdy, non-shrinking, non-warping
- 20% to 25% LIGHTER than previous headgears
- CAMBERED HEADBAND with offset rear strap
- EBONY FINISH resists degeneration by Ultra-Violet rays
- NO RIVETS, NO EXPOSED METAL—cannot snag hair
- INTERCHANGEABLE WITH HARD HATS. Snaps on or off in seconds

—a Premium-Quality Headgear at No Increase in Price!

771-FT
This compact, light face shield is available with translucent fiber glass deflector crown

748-FT
NEW fiber glass crown is now available on the popular 748 face shield

401-7F
Fiber glass helmet with stationary lens holder

THE remarkable Hed-Rite Headgear adjusts three ways: for head size; for overall strap length; for overhead strap position.

Easy-turning rear knob provides head-size adjustment by ratchet action. Ratchet is non-stripping in normal use. Excessive tension results only in slippage without damage to the ratchet or teeth.

Wide cross strap pivots freely back and forth. Four holes in each end of this strap give eight positions of adjustment so as to conform to any crown height and any head contour.

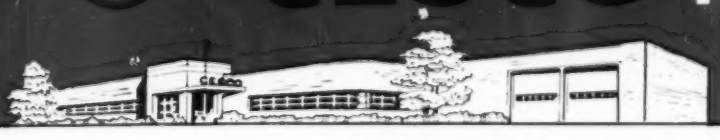
Unique design of the headband gives the proper combination of curves and opposing cambers to produce the broad contacts necessary for complete comfort.

The Hed-Rite headgear may be worn with any face shield, helmet, hood or goggle equipped with CESCO X-12 brackets. Only three typical applications are shown. Headgear is instantly detachable from helmet or shield without the use of tools. There is no electrical conductor between the interior of the headgear and the exterior of the shield or helmet.

***FOR MORE INFORMATION** about the new G-3 Hed-Rite Headgear, contact your nearby CESCO distributor or write our Chicago headquarters for a copy of the Hed-Rite descriptive folder*

CESCO

CESCO FOR SAFETY



CHICAGO EYE SHIELD COMPANY
2709 West Roscoe Street, Chicago 18, Illinois

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MERCUROCHROME should be used promptly to prevent infection. No antiseptic has been proven to be more effective than MERCUROCHROME for topical application.

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Thantis® LOZENGES

First aid for throat irritations . . .

THANTIS Lozenges prevent lost man hours due to sore throats caused by coughs or colds.

THANTIS Lozenges relieve pain promptly—reduce infection—act prophylactically.

HYNSON, WESTCOTT & DUNNING, INC.

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